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ABSTRACT

The Program Standards Evaluation System was developed in response to evaluation requirements in the 1973 Rehabilitation Act. The system includes procedures for using standards data to monitor and evaluate vocational rehabilitation (VR) service outcomes and outputs as well as standards on key procedural issues. This report contains the outlines of the analytic paradigm for management use of the Program Standards Evaluation System; that is, the typical ways in which information obtained through the operation of the standards system can be analyzed and acted upon by VR program management. In the seven chapters of the report, the analytic paradigm presents the following: (1) the program evaluation standards and associated data elements--indicators of success in achieving VR placement goals; (2) the relations among the program standards; (3) the options available for setting expectations on those indicators, and a recommended process; (4) the decision support system for investigating the causes of problematic attainment and for identifying corrective actions; (5) the system for reporting achievement and for identifying and exploring problematic attainment; and (6) program managers' use of the components of the Program Standards Evaluation System. Appendix A (bound separately as CE 036 210) includes the detailed decision support tables and displays for standards data elements, while Appendix B reviews a number of alternative approaches to the setting of performance levels. (KC)

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ED230756

# VOCATIONAL REHABILITATION PROGRAM
# STANDARDS EVALUATION SYSTEM
# FINAL REPORT

## VOLUME II: USING THE SYSTEM:
## AN ANALYTIC PARADIGM
## FOR MANAGEMENT

June 11, 1982

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# I. INTRODUCTION

The 1973 Rehabilitation Act contained, among its many other provisions, a requirement that evaluation standards be devised and implemented to measure the performance of the VR program in achieving its mandate. Over the last four years, Berkeley Planning Associates (BPA), under contract to the Rehabilitation Services Administration (RSA), has developed an integrated standards evaluation system. Two distinct sub-systems were developed. One, the proposed Program Standards Evaluation System, evaluates the federal-state VR programs. The other, the proposed Project Planning and Evaluation System, measures the effectiveness of individual projects and program authorities funded by RSA discretionary funds. The proposed Program Evaluation Standards include eight Performance Standards and associated data elements and five Procedural Standards and associated data elements. The Performance Standards pertain to service outcomes (productivity, effectiveness, impact), while the Procedural Standards pertain to service method and process (e.g., case handling, data quality).

During the last two years, parts of the standards system were pretested in six state VR agency model evaluation units (MEUs) -- in the Oregon, Pennsylvania, Delaware, and Virginia combined agencies, and in the Mississippi blind agency. The primary emphasis in this pretest of the Program Evaluation Standards was on the new data collection instruments and on revisions to the standards and associated data elements.

The program standards system is a system for evaluating and managing parts of the VR system. This report is the second of four volumes of the Final Report on the Vocational Rehabilitation Program Standards Evaluation System. Volume I reports the findings of the pretest. Volume III, the Guidance Materials, contains detailed instructions on the standards and their data elements, including special information requirements and forms. Volume IV, Training Materials, is designed as a series of training modules on the material contained in Volumes I - III. This report, Volume II, outlines the uses of the standards and presents the standards Analytic Paradigm, showing how the standards support state agency decision-making and point to specific actions for program improvement or change.

The purposes of the program standards system are, simply:

- to make available information on the achievement of state VR agencies with respect to VR goals as measured by the standards data elements; and, more importantly,
- to guide the behavior of state VR agencies toward greater achievement on those standards' data elements; as well as
- to identify possible problems and corrective actions, whenever state VR agencies are unable to reach their achievement objectives.

The revised standards system thus shares with the current standards system the purpose of providing information to RSA, to the state VR agencies, and to other interested parties such as OMB and Congress on the achievement of the state VR agencies. Current achievement and historical statistics will be provided in the VR program as a whole, and on each state VR agency.

What is new about the revised standards system is that it is oriented to guiding the behavior of the state VR agencies in new directions, not just reporting on past behavior. The revised standards system is prospective, not retrospective, oriented to suggesting directions for future behavior and not just to reporting on past behavior. By setting objectives for each state VR agency to achieve on each of the standards data elements, the VR system can be guided in the directions that RSA and the states want to go. The overall direction of the VR program thus can be changed, as can the achievement of particular state VR agencies.

The paradigm of the system is concerned with flagging problematic attainment, investigating possible problems, and identifying corrective actions.

What is also very unique about the revised standards system is that it does not stop when a state VR agency fails to meet its objective on a particular standard data element. Instead, in the revised standards system, the decision support system identifies possible problems and corrective actions. This system is designed to enable program managers to quickly identify whether possible problems can be identified or whether further evaluation is required.

## THE PROGRAM STANDARDS EVALUATION SYSTEM

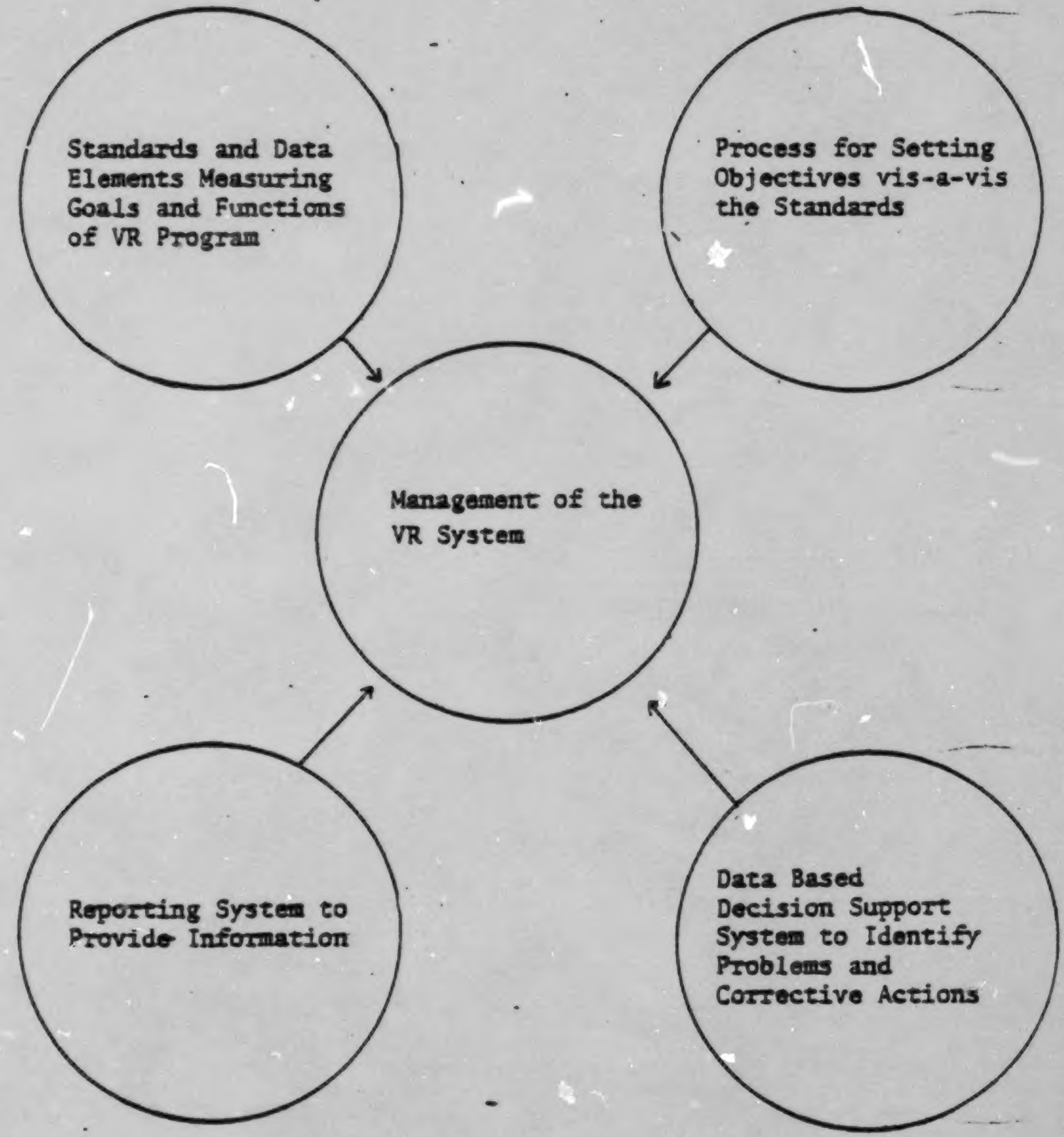
The Program Standards Evaluation System has several components, as shown in Figure 1:

- Standards and Data Elements. A set of eight Performance Standards and five Procedural Standards, with associated data elements, measure the rehabilitation goals and functions of the VR program, with respect to coverage, placement rate, cost-effectiveness, impact of client services, compliance, data quantity, and the process of service delivery.
- Process for Setting Objectives. A process for setting objectives for each state VR agency on each of the standards data elements provides clear expectations for achievement, expectations that are set in conjunction with each agency.
- Reporting System. A reporting system presents the levels of achievement of state VR agencies on the measures of the goals and function of the VR system which are captured in the standards data elements. Information on past achievement, the achievement of other state VR agencies, the components of the data elements, and on informational data elements are also presented.
- Data-based Decision Support System. Possible reasons for problematic attainment of a particular state VR agency on a particular data element are identified, either through investigation by program managers or through further evaluation research. In addition, corrective actions are identified for each possible problem.

As can be seen from Figure 1, all four of these components are oriented to the management of the federal-state VR program and to the measurement of achievement of VR goals.

Figure 1

The Program Standards Evaluation System


Standards and Data Elements Measuring Goals and Functions of VR Program
Process for Setting Objectives vis-a-vis the Standards
Management of the VR System
Reporting System to Provide Information
Data Based Decision Support System to Identify Problems and Corrective Actions

## THE GOALS OF THE VR PROGRAM

The standards were developed after a careful investigation of all the possible candidate areas of the VR client service program. RSA has issued a variety of goals over the course of its existence. These goals have appeared in such publications as the RSA Forward Plan, short- and long-range plans, Information Memoranda, and so on. The current goals of the RSA program stress the importance of job development and job placement.[1] The program standards will improve the management information available on placement, since many of the data elements measure specific dimensions of the quality of client placements (e.g., competitive employment, wage level). The VR program's coverage of clients eligible for serives, and the effectiveness and efficiency of the program in placing clients in meaningful jobs is the focus of the program standards. The procedural standards add some additional compliance measures.

One point to note concerns the potential users of the standards system. The goals mentioned above were set out by the Commissioner as priorities for the federal rehabilitation agency. One might mistakenly assume that since the standards operationalize those goals, the standards information system is of use only to RSA. To speak plainly, nothing could be further from the truth. First, since the basic VR program is a state-federal partnership, the goals set out for the federal agency by the Commissioner apply to the rehabilitation programs operated by states. Second, it is neither intended nor desired that states be frozen out of the processes embodied within the standards system, nor that the system should have little relevance or use by states in their management processes. In fact, the opposite is true. We hope that the standards system will provide states with performance measures which contribute to their management capabilities by defining the objectives of a quality program. In addition, the standards system should be useful to state managers, since performance expectations can be applied to sub-state units (districts, counselors, offices) by state agency managers. This, of course, would be at the option of the states. Other correlary state VR agency-specific goals and functions will also continue to exist and to also guide the behavior of the state VR agency.

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[1] Besides Job Development and Job Placement, the other priority areas are: Internal Management, Facilities, IWRP/IEP Linkages, Deaf-Blind Program, and Learning Disabled.

## THE ANALYTIC PARADIGM

Webster's Dictionary defines the word "paradigm" as "an outstandingly clear or typical example or archetype." Our purpose in this report is to provide just such an example -- an example of a specific set of activities which form the complete system. Specifically in the pages which follow we set out the broad outlines of the analytic paradigm for management use of the Program Standards Evaluation System. That is, we discuss the "typical" ways in which information obtained through the operation of the standards system can be analyzed and acted upon by VR program management. The standards system itself presents the means to an end: through implementation of the standards system we enhance the "manageability" of the program. The end goal is to improve program performance through the means of enhanced manageability. The purpose of the analytic paradigm is to guide the management use of the program standards system, to tie the information to corrective actions, to planning and to policy-making. The standards alone will not serve the purpose of improving performance; it is through the use of these measures in program management that the goals of the program can be achieved.

## ORGANIZATION OF THIS REPORT

Our purpose here, then, is to lay the groundwork for a comprehensive system for analyzing information obtained from the standards system, and for acting on that information to direct the program in the achievement of VR goals. In order to do this, the analytic paradigm presents:

- the Program Evaluation Standards and associated data elements -- indicators of success in achieving VR placement goals;
- the relations among the Program Standards;
- the options available for setting expectations on those indicators, and a recommended process;

- the decision support system for investigating the causes of problematic attainment and for identifying corrective actions;
- the system for reporting achievement and for identifying and exploring problematic attainment; and
- program managers' use of the components of the Program Standards Evaluation System.

In Chapter II, we discuss the proposed standards and data elements, and their relation to the goals and functions of the VR program. Both the Performance Standards and the Procedural Standards are discussed.

Because of the large number of measures of the VR program contained in the standards data elements, Chapter III is concerned with the relations between the standards data elements and with the problems those relations cause. First, the empirical relations among several measures of performance are examined. Then, some possible approaches to the problems caused by the relations among the standards are presented. Finally, the implications of continuing with multiple measures are pointed out.

In Chapter IV, the process for setting objectives vis-a-vis the standards is discussed. Having identified and operationalized the measures of the goals and functions of the VR program, we need a system for setting objectives which takes into account such things as the conflicts among goals; the levels of attainment which are reasonable to expect, given the current resources, practices, priorities, and technologies; and methodological soundness of measures of effectiveness. First, the question of whether there should be objectives is raised. Three existing methods for setting objectives are described, and a new proposal for setting objectives is put forth.

In Chapter V, we discuss in detail the procedures which should be undertaken to identify the causes of problematic attainment and corrective actions. This component is called the data-based decision support system. This system provides RSA and the state VR agencies with an approach to investigating the causes of unsatisfactory attainment and for identifying corrective actions. This chapter is organized as follows: a general model of the thinking process that maangers would undertake to investigate the causes of problematic attainment is presented first, and two examples of how the thinking process would be applied to data on the revised standards are given next. Finally, there is a review of techniques that might be employed in those cases where additional research is needed.

Chapter VI explains the reporting system for the standards. The information to be contained in the system is identified, as are the kinds of reports and displays to be generated.

Chapter VII presents an overall of the management use of the Program Standards Evaluation System and some suggestions for implementation.

Appendix A includes the detailed decision support Tables and Displays for standards data elements. Appendix B reviews a number of alternative approaches to the setting of performance levels.

## II. THE PROGRAM STANDARDS AND DATA ELEMENTS

This chapter introduces two types of standards, which make up the program standards system. There are eight performance standards, which include data elements to measure specific aspects of agency performance. These are numerical measures of aspects of agency coverage, efficiency, and program impact. In addition, there are five procedural standards covering areas of program compliance with regulations which are important to assure service quality. The revised standards and their data elements are shown in Table 1.

The development of these revised program standards and associated data elements was the result of a contract with the Rehabilitation Services Administration (RSA). This development was the result of a technical and political process, which included:

- reviewing previous work on standards for the VR program, including the New Orleans Report, and the work of the Urban Institute and JWK, Inc.;
- reviewing the existing standards, those published in the Federal Register December 19, 1975;
- gathering reactions and recommendations of selected state agencies;
- depicting various conceptual approaches to standards development and of various criteria for standards development;
- listing candidate areas for the selection of standards, along with recommendations for revised standards, using the conceptual approaches and criteria for justification;
- choosing data elements to associate with each standard based on the criteria developed;
- involving RSA staff and members of the special CSAVR advisory committee in each stage of the development; and
- pretesting the standards and their data requirements in six Model Evaluation Units (MEUs).

## Table 1

## VR PROGRAM STANDARDS AND DATA ELEMENTS: FINAL RECOMMENDATIONS

### PERFORMANCE STANDARDS AND DATA ELEMENTS

1. Coverage

VR shall serve the maximum proportion of the potentially eligible target population, subject to the level of federal program funding and priorities among clients.

(i) Clients served per 100,000 population

(ii) Percent severely disabled served.

2. Cost-Effectiveness and Benefit-Cost Return

The VR program shall use resources in a cost-effective manner and show a positive return to society of investment in vocational rehabilitation of disabled clients.

(i) Expenditures per competitively employed closure

(ii) Expenditure per 26 closure

(iii) Ratio of total VR benefits to total VR costs (benefit-cost ratio)

(iv) Total net benefit from VR services (discounted net present value)

3. Rehabilitation Rate

VR shall maximize the number and proportion of clients accepted for services who are successfully rehabilitated, subject to the meeting of other standards.

(i) Percent 26 closures

(ii) Annual change in number of 26 closures

4. Economic Independence

Rehabilitated clients shall evidence economic independence.

(i) Percent 26 closures with weekly earnings at/above federal minimum wage

(ii) Comparison of earnings with competitively employed 26 closures to earnings of employees in state

5. Gainful Activity

There shall be maximum placement of rehabilitated clients into competitive employment. Noncompetitive closures shall represent an improvement in gainful activity for the client.

(i) Percent 26 closures competitively employed

(ii) Percent competitively employed 26 closures with hourly earnings at/above federal minimum wage

(iii) Percent noncompetitively employed 26 closures showing improvement in function and life status (implement after FAI/LSI pretest)

Table 1 (continued)

6. Client Change

Rehabilitated clients shall evidence vocational gains.

(i) Comparison of earnings before and after VR services

(ii) (In addition, changes in other statuses, and functioning ability, when such measures become available)

7. Retention

Rehabilitated clients shall retain the benefits of VR services.

(i) Percent 26 closures retaining earnings at follow-up

(ii) Comparison of 26 closures with public assistance as primary source of support at closure and follow-up

(iii) Percent noncompetitively employed 26 closures retaining closure skills at follow-up (implement after FAI/LSI pretest)

8. Satisfaction

Clients shall be satisfied with the VR program, and rehabilitated clients shall appraise VR services as useful in achieving and maintaining their vocational objectives.

(i) Percent closed clients satisfied with overall VR experience

(ii) Percent closed clients satisfied with: counselor, physical restoration, job training services, placement services

(iii) Percent 26 closures judging services received as useful in obtaining their job/homemaker situation or in current performance

PROCEDURAL STANDARDS

9. R-300 Validity

Information collected on clients by the R-300 and all data reporting systems used by RSA shall be valid, reliable, accurate, and complete.

10. Eligibility

Eligibility decisions shall be based on accurate and sufficient diagnostic information, and VR shall continually review and evaluate eligibility decisions to ensure that decisions are being made in accordance with laws and regulations.

11. Timeliness

VR shall ensure that eligibility decisions and client movement through the VR process occur in a timely manner appropriate to the needs and capabilities of the clients.

12. IWRP

VR shall provide an Individualized Written Rehabilitation Program for each applicable client and VR and the client shall be accountable to each other for complying with this agreement.

13. Goal Planning

Counselors shall make an effort to set realistic goals for clients. Comprehensive consideration must be given to all factors in developing appropriate vocational goals such that there is a maximum of correspondence between goals and outcomes: competitive goals should have competitive outcomes and noncompetitive goals should have noncompetitive outcomes.

The relationships of specific standards to VR program goals are shown in Table 2. The system purposely does not include measures of inputs (e.g., what kind of VR counselors are hired, what kinds of services are prescribed), operation of related agency subsystems (facilities, CAPs, mobility training), or measures of financial operations (budgetary systems, financial management information systems). Thus the performance and procedural standards data elements are mostly oriented to measuring the performance of VR agencies in helping individual clients; they leave the decision of how to achieve these performance goals to individual agencies and VR counselors.

In this chapter, we will first review the performance standards and their data elements. For each of the standards, the data elements will be defined and discussed. Following the performance standards, the five procedural standards are introduced and described.

## PERFORMANCE STANDARDS

Below, each of the eight performance standards is discussed as to rationale.[1] The section defines each data element used as a measure of a standard, and describes the components of each measure. (In a later section, pages 35-48, each of the procedural standards will be reviewed as well.)

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[1] The Pretest volume also reviews outside comments on the standards and data elements, as well as responses to those comments. More discussion of the weaknesses of each standard and the data element is also contained. Also, there is an analysis of the data from the six MEUs. The Guidance volume summarizes the final recommended form and data sources for the system.

## Table 2

## Tie Between Standards and Goals of VR

| Standard | Goals of VR | | | | | |
|---|---|---|---|---|---|---|
| | Coverage | Efficiency | Quality and Impact | Compliance | Data Quality | Process |
| **Performance** | | | | | | |
| 1. Coverage | x | | | | | |
| 2. Cost Effectiveness and Benefit/Cost | | x | | | | |
| 3. Rehabilitation Rate | | | x | | | |
| 4. Economic Independence | | | x | | | |
| 5. Gainful Activity | | | x | | | |
| 6. Client Change | | | x | | | |
| 7. Retention | | | x | | | |
| 8. Satisfaction | | | x | | | x |
| **Procedural** | | | | | | |
| 9. Data Validity and Reliability | | | | | x | |
| 10. Eligibility Determination | | | | x | | x |
| 11. Timeliness | | | | | | x |
| 12. IWRP | | | | x | | x |
| 13. Goal Planning | | | x | | | x |

## STANDARD 1: VOCATIONAL REHABILITATION SHALL SERVE THE MAXIMUM PROPORTION OF THE POTENTIALLY ELIGIBLE TARGET POPULATION, SUBJECT TO THE LEVEL OF FEDERAL PROGRAM FUNDING AND PRIORITIES AMONG CLIENTS.

Data Elements: (i) Clients served per 100,000 population

(ii) Percent severely disabled served

This standard addresses coverage, or the extent to which the vocational rehabilitation program is serving the eligible target population. The need to ensure accessibility of services to all the eligible disabled is of paramount importance to RSA and the states. Given this standard's focus, we feel that it fits in well with the cost-effectiveness goal. On its face, the standard is concerned with the "effectiveness" aspect of the cost-effectiveness questions: increased service coverage of the eligible population is one indication of increased effectiveness on the part of a state agency. In fact, coverage represents one of the most basic aspects of a program's effectiveness. Alone, this standard ignores considerations of the quality of the coverage (i.e., the appropriateness and utility of the program's activities in the clients' behalf, and the clients' service outcomes). However, these considerations are addressed by other standards.

### DATA ELEMENT 1 (i): CLIENTS SERVED PER 100,000 POPULATION

Although this data element does not provide a true estimate of the level of coverage of eligible target population, it does, however, provide a proxy measure of the size of the target population by using the overall state population. If estimating the target population were a straightforward matter, this proxy would not be desirable or needed, but given the need for long-term development of an acceptable target population measure, this proxy serves a potentially useful purpose. Also, it is used now by state agencies, and thus it has some management utility and validity as a performance measure. The form for the element is as follows:

$$\boxed{\frac{\text{\# served in a given year}}{\text{state population (in 100,000's)}}}$$

## DATA ELEMENT 1 (ii): PERCENT SEVERELY DISABLED SERVED

The proportion of severely disabled within a caseload can reasonably be expected to impact negatively on a state agency's total volume (i.e., caseload size) and on its costs. With a high turnover of severely disabled clients, time in process would be expected to increase and counselor capacity decrease, thus decreasing a program's caseload volume potential; that is, a decrease in coverage. To effectively assess coverage, the proportion of the caseload that is severely disabled must be taken into account. Further, given the legislative importance attached to service to severely disabled, it is most appropriate to include this data element under the standard on coverage of the eligible client population.

$$\boxed{\frac{\text{\# severely disabled served in a given year}}{\text{total \# served in a given year}}}$$

STANDARD 2: THE VOCATIONAL REHABILITATION PROGRAM SHALL USE RESOURCES IN A COST-EFFECTIVE MANNER AND SHOW A POSITIVE RETURN TO SOCIETY OF INVESTMENT IN VOCATIONAL REHABILITATION OF DISABLED CLIENTS.

Data Elements:
(i) Expenditure per competitively employed 26 closure
(ii) Expenditure per 26 closure
(iii) Ratio of total VR benefits to total VR costs (benefit-cost ratio)
(iv) Total net benefit from VR services (discounted net present value)

This standard is the one most obviously related to the program's cost-effectiveness goal. Two issues are addressed by this standard. The first is the issue of cost-effectiveness: with the financial resources available to the state (or sub-region, or district, or counselor), how successfully did it achieve desired objectives? The second issue revolves around cost-benefit concerns (i.e., "return on investment"). Specifically, the standard asks the question: Are we getting more out of the program than we put in? Currently, benefits from the program are measured primarily in monetary terms (e.g., in terms of wages earned, taxes paid, and public assistance foregone). Unfortunately, this "hard-nosed" monetary focus omits consideration of many of the other benefits derived from VR (e.g., increased functional capacity). Work is well underway to develop methods for taking such benefits into account.[1] In the interim, however, monetary cost-benefit measures will continue to be important, particularly in the current era of budget constraints and intensifying scrutiny of governmental activities. As such, RSA can profit from use of a cost-benefit measure in terms of public relations value, as well as in terms of improving its own self-evaluation capacity.

Many different cost-effectiveness data elements were considered in the design of the Standards. Essentially, any data element requires in the denominator a measure of program achievement and in the numerator some measure of resources of the kind which the agency is particularly anxious to use efficiently. We chose total expenditures for the numerator because it overcomes various accounting problems, for example, "what is a service cost" and "what is a counselor FTE?" The denominators were chosen because of their relatively universal acceptance as measures of "success."

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[1] This work has been recently completed by the Texas Institute for Rehabilitation Research (TIRR). The TIRR Final Report entitled "A Benefit-Cost Model for the State/Federal Rehabilitation Program" is available from RSA.

Benefit-cost models estimate total benefits and total costs in terms of dollars. These models are neutral with regard to type of delivery strategy. As such they do not penalize agencies which choose to spend more per client in order to produce better results. Any cost-effectiveness measure, on the other hand, focuses on rewarding states which minimize costs in achieving a given objective. Units of the outcome measure are assumed to be equal in value, i.e., one rehabilitation (26 closure) is as good as any other rehabilitation. In order to offset these limitations, it is required that the outcome or benefit measure be one which decision-makers are prepared to view as having high value and units of equal value.

## DATA ELEMENT 2 (i): EXPENDITURE PER COMPETITIVELY EMPLOYED 26 CLOSURE

This data element compares total agency expenditures to the number of competitively employed 26 closures. It applies the most stringent criteria to the measurement of cost-effectiveness by focusing on only those 26 closures who are competitively employed. Such a priority may not in fact be desired, particularly given the recent emphasis on service to the severely disabled. However, we included this data element because we feel that, historically and even today, a consensus exists that competitive employment is one of the higher quality and most desirable types of closure obtainable. The form for this element is as follows:

$$\boxed{\frac{\text{total agency expenditures}}{\text{\# competitively employed 26 closures}}}$$

## DATA ELEMENT 2 (ii): EXPENDITURE PER 26 CLOSURE

This cost-effectiveness measure relaxes the measurement criteria somewhat to allow "credit" for all types of rehabilitations. It recognizes that some clients are not capable of achieving competitive employment and that other employment outcomes can represent achievement commensurate with a client's abilities. This data element compares total agency expenditures to all 26 closures, thus capturing the effect of gainful activity, whether it lies in the realm of competitive or non-competitive employment. The form for this element is as follows:

$$\boxed{\frac{\text{total agency expenditure}}{\text{\# 26 closures}}}$$

DATA ELEMENTS 2 (iii) AND 2 (iv):

(iii) RATIO OF TOTAL VR BENEFITS TO TOTAL VR COSTS (BENEFIT-COST RATIO)

(iv) NET TOTAL BENEFIT FROM VR SERVICES (DISCOUNTED NET PRESENT VALUE)

These two data elements are very similar in concept; therefore, they will be discussed together. The forms of these data elements are shown below.

Data Element 2 (iii):

$$\boxed{\frac{\text{benefits}}{\text{costs}}}$$

Data Element 2 (iv):

$$\boxed{\text{Benefits - Costs}}$$

Benefit-cost modeling of social service delivery systems enjoys current wide acceptance as a measurement tool. Its use extends considerably beyond the VR field. The figures provided by benefit-cost analysis yield a single number, which is an immediate indicator of program success. Because of its surface simplicity, and because it is a popular sophisticated analytic tool for evaluating program worth, the benefit-cost of the VR system is included as a standard.

As a review for the National Science Foundation has noted, benefit-cost applications in the VR field are more extensive and have generally been more sophisticated (or at least at a higher level of technical quality) than in most other social service and manpower program areas.[1] There are a number of models available for use. In one case, RSA commissioned the development of a model for routine use by the program, which was designed to be adaptable to the needs of many users (i.e., state agencies, RSA contracted evaluation studies, RSA itself) and to be capable of periodic updating and refinement as new data became available. That model, developed at the University of California, Berkeley and subsequently refined by BPA staff, has been used by RSA, several state agencies, the Urban Institute, Abt Associates, National Analysts, and Greenleigh Associates, among others, usually under RSA recommendation.[1] This model is the basis for the two data elements proposed for use in measuring the costs:

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[1] Berkowitz and Anderson, PADEC -- An Evaluation of an Experimental Rehabilitation Project, Rutgers University, 1974.

a. Benefit-cost ratio $\frac{(\text{Benefits})}{(\ \text{Costs}\ )}$

b. Discounted net present value (Benefits-Costs)

Both of these formulae use the "social discounted" present values benefits and costs, and both use the same components to arrive at benefit and at costs. These components, in brief, are as follows:

Benefits

- discounted value of paid earnings;
- change in output of homemaker closures;
- change in output of unpaid family workers;
- change in "after hours work" (e.g., homemaking tasks performed by wage-earning rehabilitants);
- fringe benefits;
- change in output of families of rehabilitants (as a result of rehabilitants assuming homemaker tasks);
- reductions in public assistance benefits;
- repeater costs (a "negative benefit").

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[1] Frederick C. Collignon and Richard Dodson, *Benefit-Cost Analysis of Vocational Rehabilitation Services Provided to Individuals Most Severely Handicapped (ISMH)*, April 1975.

Costs

- total program costs during the fiscal year, minus carry-over costs and maintenance costs;
- costs borne by parties other than VR;
- research, training, and demonstration costs;
- benefits foregone by clients during participation in VR services (i.e., any wage and fringe benefits foregone by clients with earnings at referral); and
- client-borne costs for VR services.

The ratio (B/C) provides a measure of the relative value of benefits to costs. This measure standardizes this comparison, and can be used for comparing values across programs, states, or sub-state areas. The benefit-cost ratio is often used in legislative reporting. B/C can also be used to observe change over time within a single agency. Our understanding of program gain is increased by looking not only at the relative magnitudes of benefits and costs, but at their absolute difference as well.

The net benefit measure (i.e., B-C) is the preferred approach of economists. It is very sensitive to the scale of program operation: in the case of VR, for example, larger agencies would produce greater total net benefits than small agencies, simply because of their larger caseloads. Thus the measure is inappropriate for comparing across state agencies, but is useful for observing change over time within an agency.

STANDARD 3: VR SHALL MAXIMIZE THE NUMBER AND PROPORTION OF CLIENTS ACCEPTED FOR SERVICES WHO ARE SUCCESSFULLY REHABILITATED, SUBJECT TO THE MEETING OF OTHER STANDARDS.

Data Elements: (i) Percent 26 closures
(ii) Annual change in number of 26 closures

Traditionally, success in VR has been measured by the number of "26 closures," or successful rehabilitations obtained. The VR goal is to rehabilitate clients, and to ignore that goal in the standards system would be a serious and uncomfortable omission. VR does need to know how many individuals it successfully serves and must have encouragement to rehabilitate as many persons in need as possible.

## DATA ELEMENT 3 (i): PERCENT 26 CLOSURES

This data element provides a straightforward measure of an agency's success in rehabilitating the clients it accepts for services. The data element focuses on the proportion of clients accepted for service (i.e., excluding 08's) who are successfully rehabilitated.

$$\boxed{\frac{\#\text{ of 26 closures}}{\#\text{ of 26+28+30 closures}}}$$

## DATA ELEMENT 3 (ii): ANNUAL CHANGE IN NUMBER OF 26 CLOSURES

This data element attempts to assess an agency's success in maximizing the number of clients accepted for services who are successfully rehabilitated. The measure uses the state agency's prior performance as a baseline for determining success in "maximization": that is, an agency is judged to have maximized the number of rehabilitants if it has increased the number of 26 closures by some previously specified amount. That amount will have been set by the state agency.

$$\boxed{\begin{array}{c}(\#\text{ of 26 closures in current year}) - \\ (\#\text{ of 26 closures in previous year})\end{array}}$$

## STANDARD 4: REHABILITATED CLIENTS SHALL EVIDENCE ECONOMIC INDEPENDENCE

Data Elements:
- (i) Percent 26 closures with weekly earnings at or above federal minimum wage
- (ii) Comparison of earnings of competitive employed 26 closures to earnings of employees in state

VR's most basic purpose is to assist disabled persons in finding gainful employment. The extent to which clients improve their ability to be economically self-sufficient (i.e., "independent") through gainful employment is a fundamental concern of VR.

Achievement of economic independence is one facet of closure quality of interest to VR, and thus this standard is included in that group of standards concerned with the quality of services; however, "economic independence" means different things depending on the type of 26 closure obtained. Thus, a variety of data elements are needed to capture the concept.

In addressing the measurement of increase in economic independence for clients rehabilitated, the logical place to look is to wages and wage increases. Two data elements are used to assess wages: comparison to the national standard (the minimum wage) and comparison to state norms.

### DATA ELEMENT 4 (i): PERCENT OF 26 CLOSURES WITH WEEKLY EARNINGS AT OR ABOVE THE FEDERAL MINIMUM WAGE

When attempting the measurement of economic independence for rehabilitated clients, particularly in competitive employment, the logical place to look is to wages. The first data element for this standard compares the wages of wage-earning rehabilitants to the "standard" of the federal minimum wage. There are state minimum wages that may be higher than the federal wage, and not all employers must pay federal minimum wages under all circumstances. The normative implications of this data element are that a disabled person should be expected, under equivalent circumstances, to make at least the minimum required by law for citizens of the U.S. The form for this data element is as follows:

$$\boxed{\frac{\text{\# 26 closures with weekly earning level at or above federal minimum wage}}{\text{\# 26 closures}}}$$

## DATA ELEMENT 4 (ii): COMPARISON OF EARNINGS OF COMPETITVELY EMPLOYED 26 CLOSURES TO EARNINGS OF EMPLOYERS IN STATE

In this data element, the wages of rehabilitants are compared to a standard or wage rate for the general population, as in (i). In this instance, however, the focus of the comparison is mean wage of closures with wages to the mean wage of employees with wages in the state.

This method controls for state-to-state variation in earnings levels, whereas using the federal minimum wage as a denominator does not. Otherwise, the concept behind this data element is the same as with (i): to compare the wages of rehabilitated disabled clients to those of the "general" population. In some respects, this is a more comprehensive indicator than data element (i), because it provides an estimate of clients' "standard of living" relative to other persons in the state. In general, as wage levels increase, so does the cost of living, and the amount of income required to maintain an "acceptable" standard of living. Since the data element incorporates cost of living (via state wage norms), we obtain a better measure of clients' living standards relative to the surrounding environment. In contrast, the federal minimum wage is not set with reference to local cost of living considerations. The form is as follows:

$$\boxed{\frac{\text{Mean weekly earnings of competitively employed 26 closures}}{\text{Mean weekly earnings of employees in state}}}$$

STANDARD 5: THERE SHALL BE MAXIMUM PLACEMENT OF REHABILITATED CLIENTS INTO COMPETITIVE EMPLOYMENT. NON-COMPETITIVE CLOSURES SHALL REPRESENT AN IMPROVEMENT IN GAINFUL ACTIVITY FOR THE CLIENT.

Data Elements:
(i) Percent 26 closures competitively employed
(ii) Percent competitively employed 26 closures with hourly earning at or above the federal minimum wage
(iii) Percent non-competitively employed 26 closures showing improvement in function and life status

Like Standard 4, this standard concerns the quality of closures obtained by VR agencies. Historically, competitive employment has been seen as the best kind of closure. However, competitive employment may not be the appropriate placement for all clients. Still, VR regulations require that any placement of a successfully closed client be into "gainful and suitable employment,"[1] "consistent with his/her capacities,"[2] whether in competitive, sheltered, or non-competitive employment.

Given these requirements, we have tried to incorporate several concepts into Standard 5. Before discussing the data elements in detail, we present an overview of the concepts, the general focus of which is on gainful employment; thus, the data elements measure the following:

(1) the extent of competitive employment closures, since competitive employment still can be seen as the best type of closure;
(2) the extent to which competitively employed 26 closures earn the hourly minimum wage, as an indicator of minimum standards for gainful employment; and
(3) the extent to which non-competitive closures have obtained some benefit from participation in VR.

To reiterate, this standard is concerned with the quality of closure, as evidenced by increases in gainful activity whether of a paying nature or not. Competitive employment is seen as the highest form of gainful activity; however, allowance is made for the need to make some non-competitive closures. Still, in those cases, VR is to ensure that the benefits in terms of gainful activity were obtained, even if not of a vocational nature.

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[1] Rehabilitation Act of 1973, Section 302(b)(2)(B).

[2] Federal Register, "Implementation Provisions," 1361, 1(bb), November 25, 1974.

## DATA ELEMENT 5 (i): PERCENT 26 CLOSURES COMPETITIVELY EMPLOYED

For a standard emphasizing maximum placement into competitive employment, perhaps the most obvious data element is to count how many are so placed. This data element is a simple, straightforward measure of degree of success in placing closures in competitive employment and could be easily implemented as the data are readily and currently available from the R-300. The form is as follows:

$$\boxed{\frac{\text{\# competitively employed 26 closures}}{\text{\# 26 closures}}}$$

## DATA ELEMENT 5 (ii): PERCENT COMPETITIVELY EMPLOYED 26 CLOSURES WITH HOURLY EARNINGS AT OR ABOVE FEDERAL MINIMUM WAGE

This data element applies more stringent criteria to the measurement of "maximum placement of rehabilitated clients into competitive employment." It compares the number of 26 closures with hourly earnings at or above the federal minimum wage to the total number of 26 closures. As in data element 4(i), this data element implies that a disabled person in the competitive labor market should be expected to earn at least the federal minimum wage. Unlike 4(i) however, this measure represents an employee's worth to the employer. Total weekly earnings are an indication of an employee's financial well-being, while his/her "worth" may be determined by examining his/her hourly wage. Thus, this data element provides a measure of the "value" of rehabilitated VR clients who are in the competitive labor market relative to the federal minimum wage. The form is as follows:

$$\boxed{\frac{\begin{array}{c}\text{\# 26 closures with hourly earnings}\\ \text{at or above federal minimum wage}\end{array}}{\text{\# 26 closures}}}$$

## DATA ELEMENT 5 (iii): PERCENT NON-COMPETITIVELY EMPLOYED 26 CLOSURES SHOWING IMPROVEMENT IN FUNCTION AND LIFE STATUS

As stated earlier, closures into non-competitive employment may be legitimate for certain clients. Nonetheless, if VR is to claim any credit for "rehabilitating" clients into non-competitive employment, then there must be some indication that VR helped improve those clients' capacity for gainful activity. If the client obtained no benefits whatsoever from VR, then VR has essentially wasted money and time. Obviously, such outcomes are not desirable.

This data element takes a subjective approach to the problem of assessing the legitimacy and appropriateness of non-competitive closures. It is computed by taking the percent of non-competitively employed 26-closures who state they have done any of the following: improved their self-care abilities and thus freed other family members to join the labor force; experienced improvement in any self-care or homemaker-related functions; experienced improvement in job-related skills; or had "improvements" in attitude. This wide range of indicators assesses the extent to which non-competitive closures benefit as a result of intervention. The form for this data element is as follows:

$$\boxed{\frac{\text{\# non-competitive 26's with improvement on LSI-FAI measures from plan to closure}}{\text{\# noncompetitive 26's}}}$$

## STANDARD 6: REHABILITATED CLIENTS SHALL EVIDENCE VOCATIONAL GAINS.

**Data Elements:** (1) Average earnings change of 26 closures, before versus after VR services

(2) Other changes in functional ability and life status

It is axiomatic that, after VR services, rehabilitated clients should evidence some sort of vocational gains; either in monetary or non-monetary terms. This standard assures that attention will be paid by the VR field to the level of client changes. It supplements the concern for measuring post-service outcomes (as in Standards 3-5) by using the client's pre-service circumstances as a baseline for comparison.

### DATA ELEMENT 6 (i): AVERAGE EARNINGS CHANGE OF 26 CLOSURES, BEFORE VERSUS AFTER VR SERVICES

This data element is included because wages are the most straightforward indicator of vocational change. Weekly earnings are used to measure change.

$$\boxed{\frac{\text{(Sum of closure earnings for 26 closures) minus (sum of referral earnings for 26 closures)}}{\text{\# 26 closures}}}$$

### DATA ELEMENT 6 (ii): CHANGES IN FUNCTIONAL ABILITY (FAI) AND LIFE STATUS (LSI) INDICATORS

In addition to vocational change (as measured by data element 6(i)), the VR program also acts as a change agent in terms of non-vocational aspects of a client's life. As with the data elements associated with non-competitive employment closures (as in data element 5(iii)), the methodology for assessing non-vocational change needs development. This development should occur as an outgrowth of RSA's FAI/LSI pretest.[1] Until such time as the measures can be finalized, no data collection or reporting will be conducted for this data element.

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[1] A pretest of these measures is being conducted by counselors with 1,300 clients in the California and Wisconsin VR agencies. A report indicating the results of use of these measures at the time of case intake and IWRP development is available from RSA. It is entitled "Functional Assessment in VR Clients: A Pretest."

## STANDARD 7: REHABILITATED CLIENTS SHALL RETAIN THE BENEFITS OF VR SERVICES.

Data Elements:

(i) Percent 26 closures retaining earnings at follow-up

(ii) Comparison of 26 closures with public assistance as primary source of support at closure and at follow-up

(iii) Percent non-competitively employed 26 closures retaining closure skills at follow-up

Retention of benefits gained through vocational rehabilitation services is important to the rehabilitated client and as a measure of overall program effectiveness. Job losses following successful closure imply program failure and point to incongruence of program goals vis-a-vis individual client goals. Are we "rehabilitating" clients temporarily to meet program objectives, then finding clients back where they started a few months later? This question has a great degree of importance to the overall VR mission and thus a standard in this area is highly appropriate. Aside from employment measures of benefit retention, additional attention is given to expanding the data elements for this standard to include non-employment measures.

This standard embodies another of the concepts related to quality service in the VR program. In the ideal setting, successfully closed clients would be permanently rehabilitated. The theory, of course, is that if quality services are provided, clients will retain the ability to function in a job and to compete in the labor market. The manifestations of those abilities are that clients do in fact retain their jobs, or some job. Of course, it is not always possible to retain jobs (or earnings levels), regardless of the quality of services provided by VR. Clients may suffer from unanticipated relapses or complications of their disabling handicaps, which can cause clients to lose their employment capabilities temporarily or permanently. Alternatively, clients can be laid off from jobs due to macro-economic conditions, regardless of the quality of VR services. Nonetheless, in general we would expect clients to retain benefits. The standard is appropriate for inclusion in the overall standards system.

## DATA ELEMENT 7 (i): PERCENT 26 CLOSURES RETAINING EARNINGS AT FOLLOW-UP

Since the achievement of "gainful activity" is the basic goal for the VR client, a simple measure of the retention of that benefit is the client's continued employment. However, this data element tightens the criterion to consider retention of the client's economic welfare level at closure. The data for such a measure would be available through follow-up inquiry. A recommended follow-up survey design is available in Volume III of this Final Report, the Program Standards Guidance Materials. The form of data element 7(i) is shown below:

$$\frac{\text{\# 26 closures with earnings at closure who retained or increased earnings at follow-up}}{\text{\# 26 closures with earnings at closure, surveyed at follow-up}}$$

## DATA ELEMENT 7 (ii): COMPARISON OF 26 CLOSURES WITH PUBLIC ASSISTANCE AS PRIMARY SOURCE OF SUPPORT AT CLOSURE AND AT FOLLOW-UP

This data element would provide a needed dimension in assessing benefit retention for non-competitively as well as competitively placed successful closures. Here, benefits are proxied by measuring the extent of the clients' use of public resources. By focusing on the degree to which there is a reduced need for public assistance, an emphasis is given to the economic self-sufficiency of the client in terms of stability or improvement. While this represents only one dimension of the possible benefits associated with successful closure (and one less sensitive to the complete range of effects of VR services), it has a high degree of face validity as a measure of public resource burden. The form of data element 7(ii) is presented below.

$$\frac{\text{\% 26 closures with public assistance as primary source of support at follow-up}}{\text{\% 26 closures with public assistance as primary source of support at closure}}$$

## DATA ELEMENT 7(iii): PERCENT NON-COMPETITIVELY EMPLOYED 26 CLOSURES RETAINING CLOSURE SKILLS AT FOLLOW-UP

This data element extends the concept of retention of benefits to non-competitive closures, in terms of the benefits assessed in Standard 5, data element (iv). The data element computes the percentage of all non-competitively employed clients who have maintained or improved their closure skills at follow-up. The percentage is computed in terms of the number of clients who stated they had improved on any aspect of self-care, attitudes, homemaker skills, job-related skills, or had "improved so as to release other family members to join the labor force." Like Standard 5, data element (iv), the exact methodology for deriving this data element's needed information in a consistent and reliable fashion is problematic. The state of the art is in exploratory stages and the special follow-up data collection required involves significant resources. While the data element is currently low in implementation feasibility, the measure has considerable value from a conceptual perspective. The form of data element 7(iii) is shown below:

$$\boxed{\frac{\text{\# non-competitively employed 26 closures retaining LSI/FAI closure skills}}{\text{\# non-competitively employed 26 closures surveyed at follow-up}}}$$

STANDARD 8: CLIENTS SHALL BE SATISFIED WITH THE VOCATIONAL REHABILITATION PROGRAM, AND REHABILITATED CLIENTS SHALL APPRAISE VOCATIONAL REHABILITATION SERVICES AS USEFUL IN ACHIEVING AND MAINTAINING THEIR VOCATIONAL OBJECTIVES.

Data Elements: (i) Percent closed clients satisfied with overall VR experience

(ii) Percent closed clients satisfied with specific aspects of VR

(iii) Percent 26 closures juding services received to have been useful in obtaining their job/homemaker situation or in current performance

As an indicator of consumer appraisal of services, the standard on client satisfaction with vocational rehabilitation services has considerable merit. Since client satisfaction polls usually offer high degrees of support for the program, this standard is viewed as having distinct political value in lobbying for expanded financial support at both the state and federal levels. Complementing the political utility of a satisfaction measure is the inclusion of a client utility assessment in the standard. The intent of this clause is to assess whether successfully closed clients rate the utility of VR services positively in terms of actually having contributed to their getting a job and functioning in it. As a substantive qualification of the satisfaction standard, utility assessment offers a valuable entree for probing areas needing program improvement and for ensuring consumer involvement in improving the responsiveness of VR services to client needs. A model for satisfaction surveys is included in Volume III, the Program Standards Guidance Materials.

## DATA ELEMENT 8 (i): PERCENT CLOSED CLIENTS SATISFIED WITH OVERALL VR EXPERIENCE

Overall satisfaction as a measure of program performance has several advantages: (1) the procedure is in place as a part of previous reporting requirements; (2) developmental costs have already been incurred; (3) it constitutes a composite measure of client satisfaction that responds to legislative and consumer advocacy concerns; and (4) the data show some discrimination among closure statuses. The form of this data element is as follows:

$$\frac{\text{\# closed clients surveyed satisfied with overall VR experience}}{\text{\# closed clients surveyed}}$$

## DATA ELEMENT 8 (ii): PERCENT CLOSED CLIENTS SATISFIED WITH SPECIFIC ASPECTS OF VR

This data element attempts to gain a more detailed picture of client satisfaction with specific key aspects of the overall VR process. In particular, the aspects isolated for inquiry include questions about the client's counselor, the physical restoration services received, the job training services received, and the job placement process. Consistent negative assessment in any one of these areas would be highly useful in guiding state evaluations and providing substantive input to programmatic improvements.

a. $\frac{\text{\# closed clients satisfied with their counselors}}{\text{\# closed clients surveyed}}$

b. $\frac{\text{\# closed clients satisfied with physical restoration services}}{\text{\# closed clients surveyed}}$

c. $\frac{\text{\# closed clients satisfied with job training services}}{\text{\# closed clients surveyed}}$

d. $\frac{\text{\# closed clients satisfied with job placement services}}{\text{\# closed clients surveyed}}$

## DATA ELEMENT 8 (iii): PERCENT 26 CLOSURES JUDGING SERVICES RECEIVED TO HAVE BEEN USEFUL IN OBTAINING THEIR JOB/HOMEMAKER SITUATION OR IN CURRENT PERFORMANCE

Rehabilitated clients can make fairly objective assessments of whether the services they received were instrumental in securing their outcome situations. Equally as important as VR services' contribution to the attainment of the client's closure situation is the usefulness of the skills obtained in assisting clients to function in these new positions. While not unequivocably objective, the client's assessment of whether he or she uses these skills and/or knowledge gained from VR services is the closest approximation of the case. The form of data element 8(iii) is shown below:

$$\boxed{\frac{\text{\# 26 closures judging services received to have been useful in obtaining their job/homemaker situation or in current performance}}{\text{\# 26 closures surveyed}}}$$

## PROCEDURAL STANDARDS

The Procedural Standards consist of five goal-statements for the VR program, pertaining to R-300 validity, compliance with key regulations, and certain aspects of case handling. They are standards 9-13 in Table 1. The Procedural Standards are intended as a method of ensuring attention to four critical process areas, and to data validity. It is intended for states to use the Procedural Standards to benefit their program evaluation efforts and facilitate the improvement of services to clients. These procedures will form the basis for agency decisions to make appropriate changes in practices, where current processes are not in keeping with client interests and positive program performance.

The recommendations for the Procedural Standards reflect the desire to allow maximum flexibility to states in the VR process, yet still ensure attention to the areas addressed by the Procedural Standards and provide sufficient data in these areas to allow for programwide analysis. Ideally, a uniform procedure would be followed by all states for monitoring these process areas, even though states retain differences in the ways they organize and conduct case service delivery. Indicators of compliance with legal requirements, such as eligibility and IWRP, should be the same for all states, i.e., the same questions should be asked and the same summary data should be reported.

Most of the needs of the Procedural Standards are best met through case review. Thus, we are recommending that a single case review process be implemented to address the case review needs of all four of the Procedural Standards. We recommend that the Case Review Schedule (CRS), developed by the San Diego State RCEP IX, be used as the basic document for Procedural Standards data collection. The CRS was mandated by RSA as the standardized instrument to be used by regional RSA offices whenever they conduct case reviews.[1] For Procedural Standards 10 (eligibility) and 12 (IWRP), BPA has selected the CRS items which we consider essential to adequately assess compliance. These items make up the Modified CRS, which is considerably shorter than the full CRS. RSA could choose either the CRS of the MCRS as the instrument for collecting Procedural Standards data.

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[1] RSA Information Memorandum, October 17, 1980.

While the CRS is an appropriate vehicle for collecting compliance data, it lacks certain items needed to assess the validity of R-300 data (Standard 9) or to assess timeliness of case service (Standard 11). For these two standards, BPA developed separate instruments to complement the CRS. These instruments are included in Volume III of the Final Report, Program Standards Guidance Materials. If the Procedural Standards are implemented, these two instruments would be incorporated directly into the CRS to provide a unified data collection instrument.

Having described the general thrust of the Procedural Standards and the general process for collecting the needed data, we turn next to a discussion of the individual standards.

## STANDARD 9: R-300 DATA VALIDITY AND RELIABILITY

Information collected on clients by the R-300 and all data reporting systems used by RSA shall be valid, reliable, accurate, and complete.

The VR service delivery systems needs an objective data base from which to measure performance. Yet inconsistencies and errors in reporting currently exist among and within VR program data systems. Confusion or misunderstanding over definitions exist and need to be minimized. This Procedural Standard would ensure that state agencies maintain acceptable levels of validity and reliability in reporting of R-300 and other data. This standard assumes states' attention to good data processing is pertinent to all the standards. Thus, given the importance of reliable, valid, and accurate data on which to base the program's evaluation capacity, we feel that this Procedural Standard relates to all of the broad RSA goals: compliance, quality, and cost-effectiveness.

Reliability, accuracy and completeness of data should be checked in several ways. While we would recommend validity studies on a periodic basis, and edit checks as a part of routine data processing, this standard encompasses a specific recommended procedure for states to follow to ensure the accuracy of data recorded and submitted to RSA through the R-300. Primarily, the case review process should include an accuracy check between the case folder information, the R-300 form itself and, if the state has a computer system, computer output listing of R-300 items selected for review. In particular, those R-300 data items which are used in computing the standard's data elements should be subjected to checks of accuracy and validity through case folder documentation.

## STANDARD 10: ELIGIBILITY DETERMINATION

Eligibility decisions shall be based on accurate and sufficient diagnostic information, and VR shall continually review and evaluate eligibility decisions to ensure that decisions are being made in accordance with laws and regulations.

The determination of an applicant's qualifications for eligibility is a critical point in the VR process for both the client and the agency. This standard seeks to protect client interest by requiring state agencies to install procedures for monitoring eligibility decisions in a sample of cases and ensuring that the decisions are appropriate, in compliance with legal requirements, and supported by the proper diagnostic information. This standard pertains to two of RSA's broad goals. First, inasmuch as the eligibility determination process rests on a legal footing, the standard pertains to the goal of compliance with the legislation. Second, we feel that it pertains to the goal of cost-effectiveness, since it is a misuse of money to serve ineligible persons, particularly if other, eligible clients are turned away due to an incorrect determination of ineligibility.

In establishing a procedural standard for the review of eligibility determination, we are concerned with the appropriateness of the decision and its accordance with laws and regulations. We expect information from this review to address two facets of this concern: (1) that clients who are not eligible for VR services not be accepted for services, and (2) that clients who are eligible are indeed accepted.

While monitoring and review of eligibility decisions by supervising counselors or managers will provide a check on that determination, states have varying supervisory structures and roles and should be allowed to retain flexibility in their monitoring practices. Although we support a cross-check on eligibility decisions, we are not recommending its inclusion as a requirement for this standard. The Case Review Schedule serves as the data source for this standard.

## STANDARD 11: TIMELINESS

VR shall ensure that eligibility decisions and client movement through the VR process occur in a timely manner appropriate to the needs and capabilities of the clients.

This standard seeks to avoid delays in the VR process that are likely to impede or hinder successful rehabilitation of the client. Rather than set a performance standard using time-in-status to define "undue delay," this Procedural Standard requires that each state have a monitoring or flagging mechanism for cases remaining in statuses over a given length of time, and a procedure to evaluate the appropriateness of any case delay. Many of the state VR agencies already have variations of such a system in place.

This standard pertains to the RSA goal of providing quality case services, for two reasons. First, one aspect of the quality of a client's service experience is the speed with which his or her case is handled: did the client feel that the counselor "cared" about him (as evidenced by the fact that the counselor "kept on top of things" and "kept things moving along"), or did the counselor seem to put him on a lower priority? The client's perception of his treatment by VR can have an impact on his attitude toward VR and about the usefulness of participation in VR. Second, research on successful rehabilitation outcomes has suggested a relationship between timeliness and success (perhaps as a consequence of the perceptions discussed above).

The issue of timely case movement or "undue delays" (as it is phrased in the current standards) has been one of long discussion and controversy. While there is literature to support the correspondence between certain times in process (particularly time to eligibility decision) and outcome, there have also been questions about interrater reliability in the area of judging timeliness of case movement through case review. Nevertheless, an overall review of timely case movement on a client-by-client basis is best handled through case review, if items can be identified which have good interrater reliability.

Much effort has gone into attempts to define, and establish standards for, timeliness of case service progress. As noted, research on successful rehabilitation outcomes has supported the concern for timeliness in establishing a relationship between the time required for an eligbility decision and ultimate client outcome. Previous attempts to monitor the timeliness of service provision by way of a standard on "undue delay" have been hampered, however, by several problems. The first is the definitional and reliability problem. "Undue delay" and its converse, "expeditious" or "quick and efficient" case management, mean different things to different people. The current standards use the approach of arbitrary time periods to define "timely" case movement: eight months has been defined as the limit for timely eligibility decisions; 22 months for timely completion of the VR process. This approach has been widely and justifiably criticized for its lack of sensitivity to the legitimate differences in individual cases: a complex case, perhaps involving long-term educational services, might well require more than 22 months, without any delay. Where a case has been subject to a delay, the situation is further complicated by the differing implications of different causes for delay: lack of client responsiveness, inattention or inefficiency on the part of the counselor or the VR agency, and problems outside of VR (failure of a vendor to deliver, unavoidable waiting lists in training programs). Each imply very different responsibility for time lapses and cannot equally be ascribed to VR agency "failure."

Thus, use of "objective" measures of timeliness has suffered from arbitrariness and frequent inappropriateness of established time cut-offs for many clients. Other approaches to objective measurement, such as recording planned initiation and completion dates for each service, and monitoring compliance with the schedule, suffer from cumbersomeness in execution. On the other hand, subjective judgments of timeliness have been vulnerable to criticisms of unreliability in application. However, this unreliability may well have arisen due to the incorporation of two distinct concepts into the previously used "undue delay" judgments. This term, "undue delay," includes concepts of both time lapse and judgment of blame, culpability or unjustifiable time lapse. (The word "delay" itself sometimes connotes willfulness or negligence, and the modifier "undue" definitely implies such problems.) Case reviewers might well differ in judgments as to the cause of a delay, and thus whether VR should be held accountable; and for this reason, reviewers may differ in their classification of a case, one citing an undue delay, another seeing an unfortunate time lapse, but being unwilling to label it an undue delay if client motivation or outside vendors played a role.

In response to the problem of a dual focus in assessing timeliness, a new timeliness assessment instrument has been developed which relies upon reviewer judgment, but which divides case assessments of timeliness into two segments: first, a notation of whether delay has occurred in terms of time lapse between necessary activities in a case; and second, an assessment of the reasons for the lapse. The relevant questions are appended to the Case Review Schedule and concern critical phases of case progress -- eligibility determination, development of service plan, and service delivery and termination. In addition, the Timeliness Assessment instrument allows for notation of whether a case was handled with "undue speed:" that is, if the case moved too fast, in the reviewer's judgment, given the circumstances of the case. While undue speed may be a less pressing concern than undue delay, the issue did come up during the standards pretest, and the Timeliness Assessment instrument has been revised to address the issue.

The Timeliness Assessment Instrument can be used by states in conjunction with the case-flagging mechanism for open cases, required by Standard 11. A mechanism must be set up by each state to flag each case which has remained in a given status longer than a specified period of time. Review of the client's situation should then take place (in a format decided by the state) to determine if case movement is appropriate, but no reporting to RSA would be required.

As part of its project to revise the VR Program Standards, Berkeley Planning Associates (BPA) developed a model for improvement of case-flagging practice and use of time in status standards at the state level. A state should not flag too many cases, because such flagging would be inefficient. However, flagging too few cases will possibly leave too many untimely cases in the system without examination. The model, therefore, is based on examining the number of cases being flagged with the states' existing flagging standards, in relationship to an analysis of the service process and the overall caseload, and refining state flagging standards.[1] The analysis uses data from the R-300 file (time in status) and timeliness data collected through the procedural standards instruments.

Figure 2 shows the steps to follow in the analysis of undue delay in the caseload. A case is selected for review, following the sampling design used by the state agency for timeliness review (100% of all cases, or state random sampling procedure). State timeliness standards (allowed times in process) will be used in this model. The model calls for upwards or downwards adjusting of these times in process standards (increases or decreases in the maximum time allowed in each status) based on two additional standards for the caseload itself:

1. Not more than 20% of the flagged cases should be timely. If more than 20% of the flagged cases are judged as timely when they are reviewed, the system is flagging cases unnecessarily, and the flagging standards should be less stringent (times allowed in the statuses could be increased).
2. Assuming the conditions in (1) above hold, at least 5% but not more than 10% of all cases should be flagged. If such excessive flagging occurs, and the flagging represents cases judged untimely, then there is a problem with the service delivery system itself, and an analysis of the process is called for. If less than 5% of cases are flagged, the flagging system should be more stringent (times allowed in statuses should be decreased).

The model in Figure 4 uses both quantitative information on times in status and subjective information from the Timeliness Assessment Instrument to decide about cases.[2] In the first stage, a case is selected for attention. If time in process is all right for the case, it is

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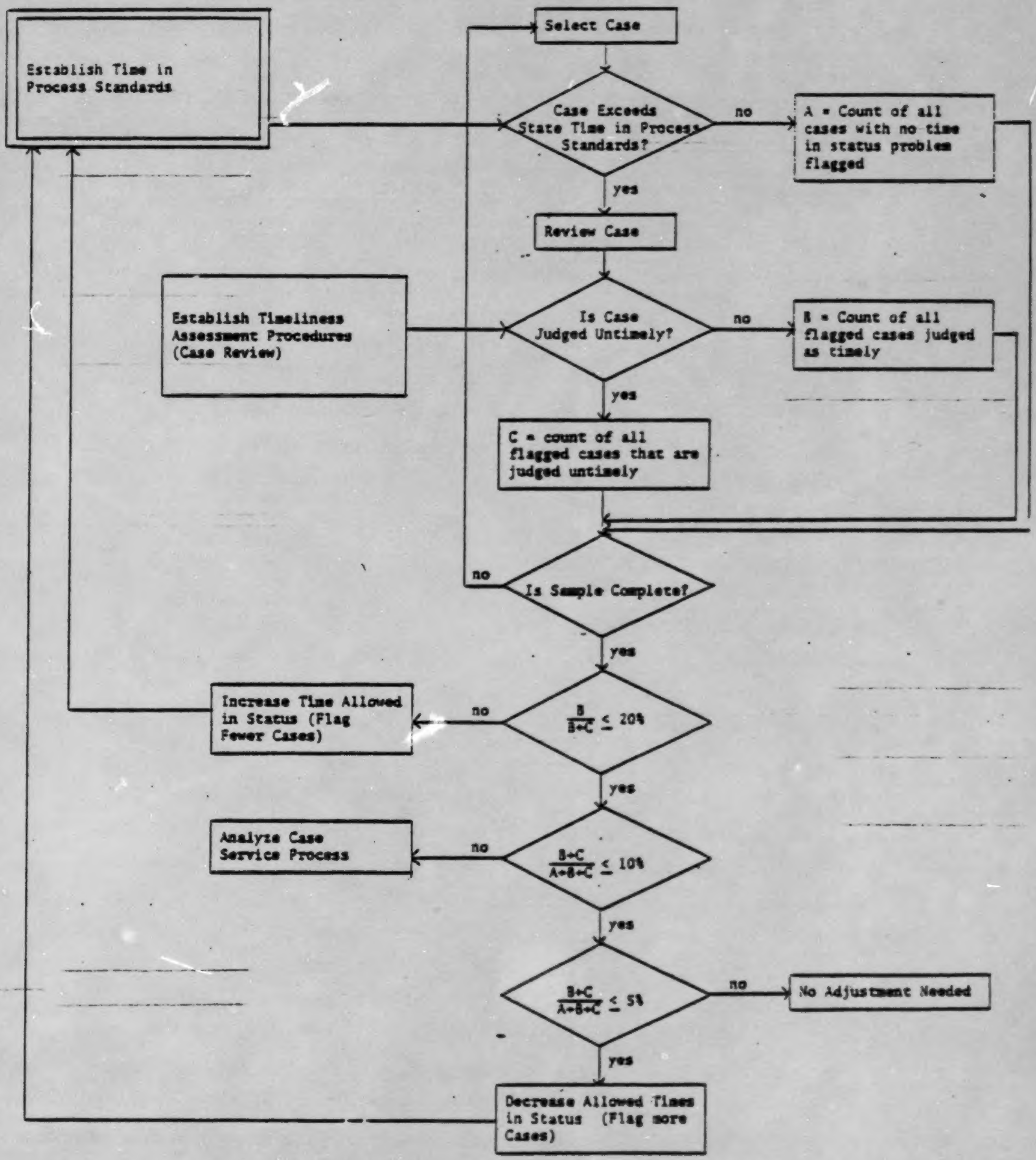
[1] The full analysis leading to the proposed model can be found in BPA's report, Review of State VR Agency Procedures for Case Flagging and Quality Assurance (September 1981), available from RSA.

[2] The model is, however, concerned only with times-in-status which are too long; it does not address "rushed" cases. Cases handled with "undue speed" are a separate issue requiring special state attention.

Figure 2

Model Case Flagging System


Establish Time in Process Standards
Select Case
Case Exceeds State Time in Process Standards?
no
A = Count of all cases with no time in status problem flagged
yes
Review Case
Establish Timeliness Assessment Procedures (Case Review)
Is Case Judged Untimely?
no
B = Count of all flagged cases judged as timely
yes
C = count of all flagged cases that are judged untimely
no
Is Sample Complete?
yes
Increase Time Allowed in Status (Flag Fewer Cases)
no
$\frac{B}{B+C} \leq 20\%$
yes
Analyze Case Service Process
no
$\frac{B+C}{A+B+C} \leq 10\%$
yes
$\frac{B+C}{A+B+C} \leq 5\%$
no
No Adjustment Needed
yes
Decrease Allowed Times in Status (Flag more Cases)

returned to the file. If time in process exceeds agency standards, the case is flagged and reviewed as to the timeliness of the process. As we have pointed out, while there is a relationship between timeliness and time in process, it is not a one-to-one relationship, so it is possible that flagged cases will be judged timely. If so, they also can be returned to the file. For both these groups returned to the file (labeled A and B on Figure 4), the number of such cases should be recorded. Likewise, the number of untimely cases flagged should be counted. (In the figure, this is C.) Cases should be flagged and reviewed until the planned sample size (A + B + C) is achieved.

Once the sample is complete, the system asks three questions of the cases. First, do the timely cases (B) exceed 20% of all flagged (B + C) cases? If yes, the system may be flagging too many cases, and times allowed for each status could be increased. If, however, B/(B + C) is less than 20%, the system asks whether less than 10% of the total caseload was flagged. If so, then the time in process standards appears in equilibrium for the state (not too many cases are being flagged; of the cases that are flagged, most of them are indeed untimely cases). If, on the other hand, more than 10% of the cases are flagged, there is a problem in the service process itself, since these cases have been judged as untimely and there are too many untimely cases for efficient monitoring and efficient operations. This calls for an examination of the service process itself, perhaps using the decision support system to analyze the state caseload process and pinpoint timeliness issues in relationship to client outcomes and costs. In addition, this problem may call for upward adjustment of the times allowed in statuses, to flag fewer cases. However, checking for the appropriate times must be done in another iteration so that a check can be made as to whether both the 20% and 10% standards are met for a given new standards level.

Finally, the state should routinely flag between 5% and 10% of its cases, to assure that flagging standards are set low enough. If less than 5% of cases are flagged, the standards should be made more stringent (allowed times in status decreased) before the next round of review.

Using this approach, states can adjust their times in status standards upwards or downwards to be more meaningful and to result in an efficient process that spots problematic cases without excessive monitoring.

The model illustrates how information from this procedural standard can be used with other program information to refine and improve state monitoring systems.

STANDARD 12: IWRP

VR shall provide an Individualized Written Rehabilitation Program for each applicable client, and VR and the client shall be accountable to each other for complying with this agreement.

Several aspects of the Individualized Written Rehabilitation Program are addressed in this Procedural Standard: (a) compliance with the requirement that an IWRP be fully developed for clients accepted for services or extended evaluation; (b) assurance of the protection of client rights and client awareness of the remedies available for mitigating dissatisfaction; (c) joint client/counselor development of the job goal and the service plan; (d) mutual client/counselor responsibility for follow-through on the agreement and annual review of its progress and appropriateness; and (e) the appropriate handling of plan revisions.

This standard bears a relation to the RSA goals of compliance and quality case services. Obviously, given the regulations mandating provision of an IWRP to all accepted clients, this standard's relation to the compliance goal is clear. While the regulations concerning the IWRP stipulate compliance with the provisions of the law, elevating the issue to the level of a procedural standard will ensure compliance with the legislative intent of the IWRP.

Inclusion of this standard could be justified simply on the basis of the strong regulation regarding compliance with the IWRP provisions of the 1973 Rehabilitation Act. However, perhaps an even more important reason to include this standard is the fact that research has shown a positive association between compliance with the IWRP requirements and successful outcomes of the VR process.[1] Since research has supported the premises underpinning the IWRP by showing that the process and the possession of the IWRP affect client outcomes positively, adherence to the IWRP requirements becomes a powerful norm for quality case management in VR, as well as a protection of client interests and rights. The case review serves as the data source for this standard.

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[1] Berkeley Planning Associates, Implementing the VR Act of 1973: The VR Program Response, p. 59. (1978)

STANDARD 13: GOAL PLANNING

Counselors shall make an effort to set realistic goals for clients. Comprehensive consideration must be given to all factors in developing appropriate vocational goals such that there is a maximum of correspondence between goals and outcomes: competitive goals should have competitive outcomes and noncompetitive goals should have noncompetitive outcomes.

Competitive employment may not be the appropriate placement for all clients. Nevertheless, VR regulations require that all placements be into "gainful activity" and that placements be consistent with the clients' "capacities and abilities," whether in competitive, sheltered, or noncompetitive employment.

There is much speculation in the field over the abuse of "homemaker" and "unpaid family worker" categories, specifically regarding the use of these categories to ensure success rather than because the placement is appropriate. While maximizing the proportion of successful closures (as in data element 3(i)) is important to the purpose of VR, it does not ensure that noncompetitive placements are suitable for the client. This standard addresses the concern that noncompetitive closure categories not be used to salvage "successes" for clients who were unsuccessful in their planned competitive goals.

However, this standard is not intended to "freeze" counselors and their clients into goals as set out in the original IWRP. Such an effect would be a misapplication of the IWRP process. The IWRP is intended to be a statement of a realistically attainable goal which, if necessary, can be modified for a variety of valid reasons as the client progresses through the VR process. That is, the IWRP serves as a guideline rather than as a hard and fast rule.

As such, state agencies should not use the results found for the standard in such a way as to overemphasize the importance of matching the outcome to the goal. This would serve as a disincentive to setting ambitious (i.e., competitive employment) goals in the original IWRP, and would reduce the flexibility of the counselor in refining the goal in response to client progress during the rehabilitation process. Instead, if "problems" emerge on the standards the results should be used in conjunction with data on client characteristics and services provided to investigate how counselors can be more effective in the task of "fitting" clients' potentials to feasible ultimate outcomes. In this way, the standard is used appropriately to facilitate effective goal-planning rather than simply to focus on whether goals matched outcomes.

Standard 13 uses four variations on a common theme as data elements:

$$\text{(i)} \quad \frac{\text{\# of 26 closures with competitive goal AND competitive outcome}}{\text{\# of 26 closures}}$$

$$\text{(ii)} \quad \frac{\text{\# of 26 closures with competitive goal BUT non-competitive outcome}}{\text{\# of 26 closures}}$$

$$\text{(iii)} \quad \frac{\text{\# of 26 closures with non-competitive goal AND non-competitive outcome}}{\text{\# of 26 closures}}$$

$$\text{(iv)} \quad \frac{\text{\# of 26 closures with non-competitive goal BUT competitive outcome}}{\text{\# of 26 closures}}$$

## III. RELATIONS AMONG THE PROGRAM STANDARDS

The number of performance standards data elements (21) creates certain problems in designing and implementing the standards system. The problems revolve around which standards and elements to emphasize, realizing that some choice will have to be made between improving on one standard over another, or improving a little on each. The problem is exacerbated when improvement on one standard may be at the expense of another standard, i.e., with decline on another standard.

The various data elements represent diverse goals, some in conflict. With a single objective function (single goal), VR may be expected to maximize on the measure (e.g., close as many clients as "26s" as possible). But with multiple objectives, as represented by the standards and data elements, conflicting in many subtle and not-so-subtle ways, a system of attainment levels can only indicate desired achievement on all elements. Among elements are trade-offs, however. For example, an agency might maximize its benefit-cost ratio by reducing its coverage rate and by creaming. As a result, success in achieving one program goal could be counterproductive to success on other goals.

The reason this problem arises, of course, is because the basic VR program has several conflicting, although legitimate, performance and service objectives. (To paraphrase one regional official visited during our study, VR is really many programs, each with distinct goals.)

The problem of conflicting mandates can be illustrated with a simple listing of hypothetical "maxims" for the VR program (keyed to the revised data elements):

(1) The basic purpose of VR is to assist disabled individuals in obtaining "maximum participation in gainful employment, consistent with his or her abilities." (Standards 3 and 6)

(2) Ideally, when the client finishes VR, he or she will be able to compete with nondisabled persons for jobs paying at least entry-level wages. (Standards 4 and 5)

(3) Not all clients will be able to achieve competitive employment. For such clients, VR may provide services aimed at obtaining noncompetitive employment: homemaking, sheltered work, and other unpaid work. However, VR shall make every reasonable attempt to identify the possibilities for obtaining competitive employment before deciding on a noncompetitive job goal. Also, in such cases clients shall have obtained some type of benefit from VR, whether vocationally (e.g., enhanced job skills), or nonvocationally (e.g., enhanced abilities for self-care). (Standard 5, data element iii; Standard 7, data element iii)

(4) VR shall serve as many eligible clients as it can. (Standard 1, data element i)

(5) VR shall use its resources as efficiently as possible. (Standard 2)

(6) VR shall give priority service to severely handicapped individuals. (Standard 1, data element ii)

Each of these maxims concerns the outputs of VR, and there are conflicts even among these six. For example, assume that competitive employment is indeed the ideal outcome. Since competitive employment requires greater skills than noncompetitive employment, then, in general, greater effort will be required of VR (in terms of time and cost) to achieve competitive employment outcomes. That is, costs go up (and "efficiency" goes down) to the extent that competitive employment outcomes are emphasized. There may be another conflict between serving the severely disabled and the goal to serve the most clients.

The discussion below presents some empirical findings on the relations among measures of performance to underline the difficulties that multiple measures cause. Then, two approaches to the problems of multiple measures are presented with their shortcomings noted. Last, the implications of continuing with multiple measures for the standards system are laid out.

## RELATIONS AMONG MEASURES OF PERFORMANCE

A data base of all the standards data elements is not available for all agencies (since several new data collection instruments are involved and since the standards' pretest was carried out in only six state VR agencies). However, the data is available for some of the data elements, allowing analysis of some of the relationships among VR performance measures.

In Knuce, Miller, and Cope, relationships among several measures of inputs, process, and outputs were investigated for the 54 states and U.S. territories. Several of the measures used are found in the standards data elements, and others are very similar. The bivariate correlations among some of these measures for 1968 and 1969 are shown in Table 3 . The authors state:

> Both the high levels of rehabilitation rate and rehabilitant's salary are desirable program outcomes. Yet, the results suggest that these outcomes may be incompatible with each other. Such an incompatibility is highlighted by the opposite relationship that the two output variables (the rehabilitation rate and rehabilitant's salary) have to the number of cases served. Where more clients are served, the rehabilitation rate is higher but rehabilitant's salary is lower. Conversely, when fewer clients are served a higher placement level (rehabilitant's salary) is achieved. Parenthetically, it is noted that volume, as measured by number of cases per 100,000, is associated with lower rehabilitation cost.
>
> The inverse relationship between rehabilitation rate and rehabilitant's salary has special implications for program evaluation. Many programs that look good on one of these outcome variables will look bad on the other one. This finding does not necessarily imply that programs high or low on either of these variables are good or bad. However, the results do strongly support a position that the two kinds of programs have different resources and strategies. Those agencies with high rates tend to have more financial resources, work with more clients, rely more on workshops, and keep clients in the caseload for a shorter period of time. Those with lower rates tend to deal with fewer clients, be more selective in accepting clients, keep them in the program for a longer period of time, and provide them more training. Therefore, examination and evaluation of a program on the basis of only one criterion could lead to erroneous conclusions about program effectiveness. (page 137)

In Dodson (1978), factor analysis was used to investigate the relationships among measures of outputs, and among measures of performance for the states for 1970. The results of the factor analysis for the performance measures are shown in Table 4.

A factor analysis of all eight performance measures yields three factors. The first has high loadings on % with earnings at closure (.93),

## Table 3

## Correlation Among Measures -- Knuce, Miller, and Cope

| Measure | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Clients served per 100,000 population |  | -.38/-.43[a] | .89/.92 | -.34/-.29 |
| 2. Expenditure per 26 closure |  |  | -.39/-.56 | .06/.30 |
| 3. Rehabilitation rate per 100,000 population |  |  |  | -.39/-.39 |
| 4. Average earnings at closure for 26 |  |  |  |  |

[a] 1968/1969

Table 4

Factor Analysis of Output Measures -- Dodson (1978)

| Measure | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| 1. Percent 26 with earnings at closure | .93 | | |
| 2. Average earnings at closure | | .93 | |
| 3. Percent 26 with competitive employment | .86 | | |
| 4. Percent homemaking | -.93 | | |
| 5. Increase in earnings from referral to closure | | .81 | |
| 6. Reduction in public assistance | | | |
| 7. Percent with public assistance at closure | | | |
| 8. Benefit cost ratio (crude) | | | .89 |

competitive employment (.86), and homemaking (-.93). The second factor has high loadings on earnings at closure (.93) and on increase in earnings (.81), reflecting the high correlation (.92) between these two measures. The third has a high loading on benefit cost ratio (.89). These factors account for the following percentages of the shared variation: 50.6%, 31.1%, and 18.3%, respectively. Overall, these three factors account for 71.1% of the total variation. Of the individual measures, only reduction in public assistance (4.5%) and % with public assistance at closure (23.1%) have less than 50% of their variation explained by these three factors.

Thus, the percentage of earnings or competitive employment (as in data element 4i or 5i) comprises a very different dimension than the absolute level of earnings (as in data element 4ii). The cost benefit ratio presents again another dimension.[1]

The main conclusions to be drawn from these analyses are:

- some of the standards data elements are positively related, so that an agency doing well in one data element will likely be doing well on other data elements;
- some of the standards data elements are unrelated, even within the same standard, so that an agency doing well on one data element will not be related to its doing well on other data elements;
- some of the standards data elements are negatively related, so that an agency doing well on one data element will likely do less well on another data element; and
- the attainment of VR agencies with regard to the Performance and Procedural Program Standards is clearly multidimensional.

## APPROACHING THE PROBLEMS OF THE RELATIONS AMONG THE PROGRAM STANDARDS

There are some possible approaches to the problems of the relations among program goals. Two are discussed below: the use of a composite scale and the specification of a hierarchy of standards and data elements.

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[1] These dimensions have a correlation of zero, since orthogonal rotation has been performed; when oblique rotation was tried, the correlations between dimensions stayed near zero.

## Use of a Composite Score

The measurement of the 13 different standards will necessarily involve discrete measures of an agency's attainment on 21 data elements for performance standards plus procedural standards. This has raised the question of the desirability of the development of some composite measure that would enable one to quickly summarize the status of any given agency's attainment or to easily compare across agencies.

There are both technical and conceptual issues to be addressed in developing or considering the merit of composite measures. Technical issues, once the decision to use a composite has been made, are two: standardizing different units of measure (so that, for example, percent competitively employed, dollars per successful client, ratio of closure to referral earnings can be combined in one measure), and weighting of the individual elements comprising the composite measure (is the proportion of successful clients of equal weight to the cost-effectiveness of serving clients; are these of equal weight to an overall program benefit-cost ratio?). At least one approach to the standardization of scores has already been applied to VR standards (i.e., the current nine standards, not these proposed revised standards). That approach was outlined by Perry Levinson, the Research and Evaluation Specialist for Region IV, in his adaptation of the Profile Analysis Technique to the development of Performance Level Scores, using stanine (standard nine) scores for each measure. Given the desire to produce a composite performance score, that approach or some other variant could be used. However, the units of standardized scores are difficult to interpret and thus could result in some confusion in the reporting system. The second technical issue, however, that of weighting, is more complex. In fact, it is not solely a technical issue, but a very serious policy issue. Who is to be responsible for establishing which standards, and which measures within each standard, are most important? How are the specific numeric weights to be assigned? BPA believes that this would represent, for the VR Program Standards, a very difficult task.

There are serious conceptual issues in addition to the technical issues outlined above. Each data element has been selected for its ability to measure a discrete aspect of that standard. Thus, it is important to be able to observe a given agency's attainment both in terms of its ability to produce competitive employment closure and in terms of its clients' ability to retain benefits for an extended period after termination of services. Similarly, it is important to know the cost-benefit and cost-effectiveness with which the agency can achieve these objectives. The use of a composite measure, while it appears to facilitate comparison across agencies, actually masks or loses information. Two agencies, each with a composite score of 60 on a scale of 100, may have very different strengths and weaknesses: one may have very high client satisfaction, but very high costs also; the other may have very high cost-effectiveness, but very low satisfaction of its clients. An example of this problem is shown in Table 5 . The levels of attainment for two data elements, both expressed as percentages, are given for six hypothetical agencies. If equal weights of 1.0 are used for each data element, the first three agencies show the same composite scores (60%) and the next three show 40%. As the table shows, the composite score masks attainment on the two data elements, which is very different. The overall attainment of agency D is clearly less than that of agency A. However, despite the lower composite scores, is it clear that agencies E and F are worse than agency A? The primary purpose of the system that BPA, RSA, and CSAVR have taken pains to develop is to examine differences across agency attainment, reasons for problematic attainment, and thus to be able to provide guidance on how to improve attainment. The computation of composite attainment measures does not contribute to this end and, in fact, is likely to serve to divert attention from this purpose, which involves careful interpretation and thorough analysis, to the facile purpose of "ranking" and "rating" agencies.

We do believe, however, that underlying the quest for composite scores are some legitimate concerns. The concerns are that the individual standards cannot be looked at solely in isolation, that there are relationships among standards, that there are trade-offs in the ability to show successful attainment on the standards, and that a "systems" or "holistic" approach to considering attainment on the standards is needed. Thus, an agency that does well in producing competitive, high-wage closures may not do so well in the proportion of all clients that are "successful" -- quality

### Table 5

### Problems with a Composite Score: Hypothetical Attainment on Two Data Elements

| VR Agency | Data Element 1 | Date Element 2 | Equally Weighted Composite Score |
|---|---|---|---|
| A | 60% | 60% | 60% |
| B | 95% | 25% | 60% |
| C | 40% | 80% | 60% |
| D | 40% | 40% | 40% |
| E | 70% | 10% | 40% |
| F | 50% | 75% | 40% |

may involve a trade-off in quantity. Numerous such trade-offs exist in terms of the standards. Attention to this issue is critical. The point, however, is that use of composite measures does not elucidate the trade-offs and relationships, but rather hides them. The high-quantity-low-quality agency and the high-quality-low-quantity agency may well have the same composite score.

The appropriate format for looking in a "systems" manner at an agency's attainment is the decision support structure, explained in Chapter V and illustrated in detail in Appendix A of this report, that we have devised as the framework for the standards. Rather than subsuming the standards under each other, this system allows the analyst to statistically "control" for one standard in assessing attainment on another. This logical structure is far more comprehensive in providing the ability to control for elements of VR outside of the standards. Thus, in understanding performance on measures of quality outcome for Standard 4 (e.g., wages), we can look not only at an agency's performance on the quantity of successful placement (Standard 3), but also at client mix (severity of disability), economic condition of the state and region, and other important factors not part of the standards at all. Techniques such as the Profile Analysis Technique and more complex multivariate (such as regression) analysis techniques also allow examination of multiple measures and permit RSA, state program managers, and outside evaluators to see relationships among standards, determine what is facilitating or hindering good attainment, and identify the type of program changes that will lead to improve attainment -- this is exactly what the composite score will not do.

## Hierarchy of Standards and Data Elements

Another approach less demanding than the composite score is the specification of a hierarchy of standards and data elements. In spite of the many criticisms of the composite score just discussed, the most telling problem is the near impossibility in getting weights developed and agreed on. A less demanding approach would be to bypass exact weights and instead identify a hierarchy of standards and data elements.

A very simple form of this hierarchy would be for the state VR agency or RSA to rank the data elements, with the highest ranking data element at the top of the hierarchy, and so on. With this hierarchy, state VR agencies could first focus all their efforts on the top priority data element, then on the second, through the last.

Even simpler would be for the state VR agency or RSA to identify one high priority data element, with all the other data elements secondary. However, in either form, either when ranked closely or in the secondary set of data elements, some way would have to be found to express the trade-off between zero or negatively correlated data elements.

How realistic is it to develop such a hierarchy, and to obtain a consensus from all involved parties, including the Department of Education, the OMB, the Congress, the states, CSAVR, consumer groups, etc.? One way to begin to develop a hierarchy would be to recognize that different data elements may be seen to serve different functions:

- The most important data elements are those that serve as the key indicators of success on the program's priority objectives.
- Other data elements serve as indicators of aspects of performance of interest to RSA, rather than of priority objectives. The reasons that a data element may be of tangential interest include: the output represented by the data element may be beyond the control of VR; or, we do not yet understand the causes of success on the data element, yet we are still interested in observing states' performances; or, the methodology has yet to be developed to a level suitable for use in assessing state performance.
- Other data elements or their numerators or denominators are intended less as management tools than as ways of presenting VR to the outside world: their value lies in the areas of public relations and lobbying rather than as indicators for management (client satisfaction could be seen in this way).

The implications of continuing with the multiple measures without composite scores or without a hierarchy of standards are very clear. The effect is to weight each data element for each standard equally. Also, the state VR agencies are given one explicit direction for trade-offs between data elements. However, in objectives set by each agency, implicit weights and implicit trade-offs will be reflected.

Chapter IV reviews the issues involved in setting agency objectives on the standards; the levels of attainment set for each data item thus become the guidelines for directing agency performance. Chapter V discusses the diagnostic power available by combining different measures in the decision support system; such analysis should be undertaken if agency performance shows problematic achievement on one or more of the data elements.

BPA suggests that two steps be taken to address the question of weights. First, in the decision support system, the relations between the attainment by agencies on the data elements should be examined empirically each year. In this way, the continuing existence of trade-offs can be verified. If attainment on all of the data elements shows very high positive intercorrelations, then the problem is resolved. Zero or negative correlations will indicate that the problem still exists. For example, we might find that 100% "impact" can be obtained only if we are willing to settle for 60% coverage (i.e., by sacrificing 40% coverage) and 40% efficiency. Infinite other variations would exist. This information on the range of possible trade-offs could be presented to policy makers, and through some process of consensus building the acceptable trade-offs could be determined. The main advantage of this approach is that specific program choices would be identified.

Second, as the standards system operates over time, a state VR agency or RSA will be able to examine the levels of attainment reached overall. As these levels increase perhaps disproportionately, certain data elements could be targeted for emphasis.

Together, these two approaches afford a practical role for standards in the operation of state programs. The measures and their relationships can be refined based on knowledge gained through use and experience.

## IV. SETTING VR AGENCY OBJECTIVES VIS-A-VIS THE STANDARDS

Once standards and associated data elements measuring the goals and functions of the VR system have been specified, some way must be devised to set levels of each data element as the objective of each VR agency. Today, the measures for performance come retroactively, from comparison with other states' outcomes. This new system calls for prospective goal setting. Saying that a VR agency should make sure, for example that rehabilitated clients shall evidence economic independence is fine. But, for the data element "percent 26 closures with weekly earnings at or above federal minimum wage," no level is obvious. Should the agency have 100% of its clients at or above minimum wage? 80%? 60%? Some way must be found to set the level that a particular VR agency should strive for.

The discussion of setting VR agency objectives proceeds as follows. First, the question of whether there should be objectives is raised. Second, three existing methods for setting objectives are described. Third, the dimensions of a method for setting objectives are outlined. Lastly, a new proposal for setting objectives is put forth.

### SHOULD THERE BE OBJECTIVES?

A standards system could operate without objectives. However, would such a standards system result in higher levels of attainment on the data elements? Without objectives, there would be no firm guides to state VR agency decisionmakers. They would have measures from previous years, and a vague mission of doing better (or, in these times, maintaining performance). Moreover, the state VR agency would not have any signals as to whether the decisions and actions of the previous years had the desired effects. No information on the level of effort or amount of change would be available because there would be no yardstick to measure progress by. Without an objective, very simply, progress is hard to measure.

## EXISTING APPROACHES TO SETTING OBJECTIVES

There are some existing approaches to setting objectives. They are reviewed below to identify the current state-of-the-art. They include:

- the method used in the current standards;
- the method used in the SSDI/SSI-VR Special Program; and
- the method previously proposed by BPA for the revised standards.

### Approach of the Current Standards: National Averages

National averages are used in setting objectives in the current standards. There, statistical distributions of particular data elements are developed each year, and those states that fall outside the acceptable bounds are identified. Several alternative ways for identifying cut-off points are used, including a central tendency based approach (such as ± one standard deviation from the mean) or percentaging (such as bottom 10%) or ranking (bottom 10 agencies).

On the positive side, this approach provides a relatively easy way to identify those states with below average performance. Objectives based on national averages allow the targeting of states that may need technical assistance or at least further evaluation. Additionally, since the use of national averages provides an easy way to view aggregate national performance, this approach provides one way to identify overall program planning needs.

There are many negatives associated with this approach. Primary among them is the establishment of a model of performance based on a statistical average (the status quo), which may or may not represent an appropriate target for agency attainment. The approach, by providing no a priori targets for states to shoot for, is not likely to motivate states to change present practice. It inherently places some agencies outside the acceptable performance levels because of the statistical construction of the level, even if no policy or management rationale distinguishes their performance as unacceptable. Beyond this, the approach may require controls to adjust for exogenous factors that would affect performance, since a national comparison may not be appropriate for particular agencies, on particular data elements. Even with improved measures of central tendency, these problems still hold.

## Approach Used in the SSDI/SSI-VR Special Programs: Norms

For the SSDI/SSI-VR Special Program, RSA took the tack of directly specifying the level each agency should reach on a number of data elements. In a December 21, 1977 Information Memorandum (RSA-PI-78-10), four case closure performance data elements were considered: percentage SGA (significant gainful activity); percentage cases meeting SSC (special selection criteria), receiving significant services, and achieving SGA; cost per SGA; and cost per 26. For the percentage SGA, an objective of 80% was set. The basis for this level is not discussed, but seems to be what RSA thinks the agencies should attain.

## Approach Proposed for the Revised Standards: Progress Levels

The approach recommended by BPA in 1978 is a progress approach, which utilizes a retrospective performance classification method in order to establish a baseline assessment of a given state's attainment on any given data element. This baseline assessment categorizes individual state VR agencies into high, medium, or low levels of attainment for a specific year. "High" is defined as performance equal to or above the national average performance for any data element (or, the national mean for any data element). Medium performance is defined as performance between the national average for any one of the data elements and the first standard deviation below the average, and low performance is that performance beneath the first standard deviation below the national average. This categorization is then the basis for prospectively establishing expected attainment for the coming year, based on the history of attainment of the agency and others on a particular data element.

A state would be expected to perform a specified fraction, or percentage, of the national rate of performance change on each specific data element. The fraction or percentage will depend on which performance class a state falls into. The national rate of performance change is nothing more than the average percentage rate that all states (combined) have improved or declined between specific years on each data element. For positive national rates of change, states classified in the high category would be expected to increase performance 75% of the national rate of performance change on any given data element; while those states classified in the medium performance categories would be expected to improve 125% of the national rate of performance change. Those states landing in the low performance margins are expected to improve 150% of the national rate of performance change. For negative national rates of change, the percentages should be reversed (the worst states can not afford to slip as much as the "high" states). The rationale behind this is that such expectations require states doing well to maintain their level of performance while not pushing them to unreasonable goals. However, those states in the medium and low categories are expected to increase their performance relative to their national standing and the national average. This provides direction to each state regarding what is expected of it relative to all states and subsequently provides an optimistic direction for the national rehabilitation program.

## A NEW PROPOSAL FOR SETTING VR AGENCY OBJECTIVES

During the pretest, BPA reviewed a number of other alternatives to setting levels. BPA proposes a new approach for setting VR agency objectives, an approach that shares some of the aspects of the 1978 proposal, but diverges from that proposal in other ways.

Since a prospective method for setting VR agency objectives has not been in effect, the VR system has no experience to draw on in evaluating the various possible methods. We suggest a workable approach in the short run, with monitoring, evaluation, and revision of the approach after the system has been operating for a time.

As part of the initial objective setting the levels of attainment on each of the standards data elements for the previous year, the objectives for the year, and historical performance of the agency will be reviewed. Also reviewed would be the values of all the components of the data elements and associated information data elements. The levels of attainment, negotiated objectives, and informational data elements could also be reviewed for comparable agencies, exemplary agencies, and the nation as a whole. All of this information could be available in the reporting system described in Chapter VI.

A negotiation process could balance what the state VR agency thinks it can attain versus what RSA would like it to attain. Under such an approach, the objective is unlikely to be viewed as infeasible or unrealistic by the state VR agency.

Once the new standards system has been operating for two years, the method of setting objectives should be evaluated. One part of the evaluation would be a comparison of the objectives set by the various technical methods to the negotiated objectives, to see if these methods would have made a difference. The major focus of the evaluation should be on whether the levels of attainment on the data elements have increased. In addition, RSA should canvas the state VR agencies and Regional Office staff on how the objective setting process is working. At that point, another method might be chosen, or the proposed method continued.

## V. INVESTIGATING PROBLEMATIC ATTAINMENT: DATA-BASED DECISION SUPPORT SYSTEM

A state's performance on the data elements should be compared to the performance levels set for that period. Some agencies will not have met some of their objectives set for level of attainment on the standards. The system does not stop with this comparison or grading but instead moves to investigate the problematic attainment and to identify corrective actions as part of the decision support system. The purpose of the decision support system is to close the gap between reporting on the standards and actions based on the standards. The system should:

- provide an ability to pinpoint causes for problems in attainment;
- identify strategies leading to enhanced attainment; and
- identify appropriate policy recommendations and program actions that can be taken by state agencies, RSA, or Congress, based on the analysis and aimed at improvement in agency attainment.

Achievement of these objectives requires synthesis of first-hand familiarity with program operations, analytic techniques, and a sensitivity to policy concerns. Sensitivity to policy concerns is a most important consideration in terms of the overall design of the supportive evaluation system. Decisions are made by program managers, be they within RSA or within state agencies. The standards evaluation system is designed to inform decisions aimed at alleviating observed problems in agency attainment. As such, the overall supportive evaluation system must first and foremost address the information needs of program managers. What this means in practical terms is that, at a minimum, program managers must be provided with information that is:

- relevant to the issues (i.e., problems) under consideration;
- quickly and easily interpretable;
- timely; and
- suggestive either of an immediate policy response to the problem, or of further investigation needed before an appropriate response can be formulated.

The basic flow of the decision support system is shown in Figure 3. Problematic attainment, where an agency is unable to meet its objective for a particular standard data element is the signal for the process to start. Problematic attainment is flagged in the reports. RSA and the state VR agencies initiate investigation of the problematic attainment. If they are able to identify problems and possible corrective actions, then implementation is the next step. If not, then more extensive investigation is called for. Implementation of the corrective actions will affect state VR agency operations in the next cycle of the standards system. As a result of the corrective actions the agency may be able to meet its objectives. Otherwise, the cycle starts anew.

As noted, the investigation of problematic attainment has been broken into two parts:

- basic problem identification carried out by VR and RSA staff and the state VR agencies, using the standards reporting system plus agency knowledge of program operations; and
- evaluation research, carried out by evaluation staff or by outside consultants, using agency data and other data bases or on-site investigations and case reviews, as needed.

This chapter is organized as follows:

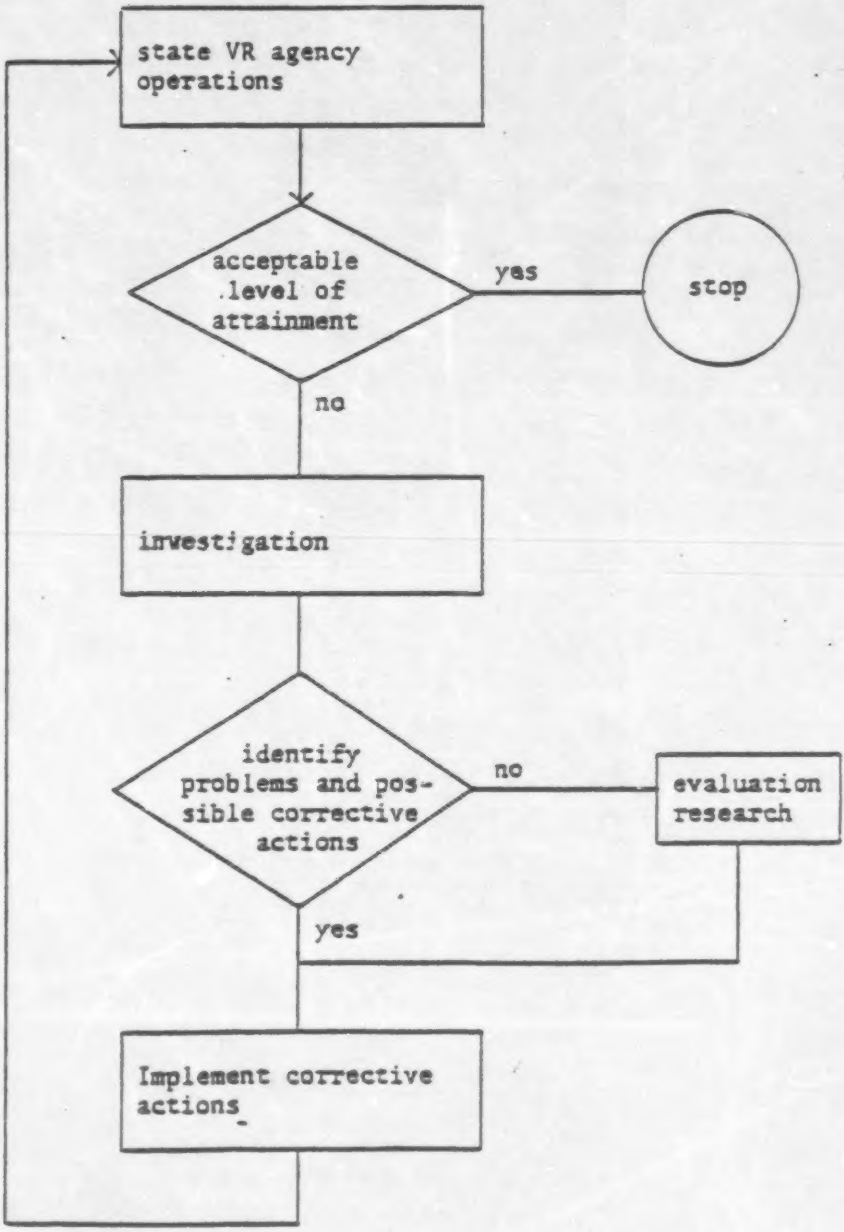
- a general model of the thinking process that managers would undertake to investigate the causes of problematic attainment is presented first;
- two examples of how the thinking process would be applied to data on the revised standards are given next;
- the two major levels of statistical evaluation research are summarized.

## THE PROCESS OF PROBLEM IDENTIFICATION

The process of problem identification outlined below may be carried out within individual state VR agencies or by RSA. The information for the problem identification will come from the standards reporting system as well as from the agency managers' knowledge of program operations. The process consists of narrowing in on problems by examining a selected set of data indicators

Figure 3

The Flow of the Decision-Support System


state VR agency operations
acceptable level of attainment
yes
stop
no
investigation
identify problems and possible corrective actions
no
evaluation research
yes
Implement corrective actions

when a problem is flagged. These "second-level indicators" will then lead to particular diagnoses of agency problems or indicate further areas for investigation, once the problem is identified to the manager's satisfaction. At that point, corrective action is formulated. Or, at any point in tracing out these problems further analysis in the form of evaluation research may be required. This process is like that normally illustrated by a decision tree. Of course, the process of problem identification may lead down several paths at once. The point is to do the analytical thinking and utilize existing information to identify possible problems and corrective actions. Also, more than two paths may need investigation from a particular node, or more than three levels of indicators may have to be examined. Below, the specifics of this process are further delineated.

If a data element shows problematic attainment, the first level of analysis is to examine the components of the element, dissecting the ratio or measure into its separate parts, to pinpoint the areas needing attention. For example, if the numerical value of a ratio is too large, the problem may be in an area of agency operations reflected in the numerator (too large), the denominator (too small), or both. Comparison of attainment on the data elements or their components with that of other agencies with similar programs, or historically, or on other data items, can help determine the extent to which the indicator shows a real problem or if there is a good explanation for the attainment. The goal in this analysis is to seek explanation, or the identification of which components or related measures pinpoint the areas to be explored further. This analytical process may take several iterations before a cause is pinpointed. The first levels of the process are not to be seen as complex statistical analysis problems, but rather straightforward, simple program comparisons that allow people to progress through a decision-tree, diagnosing problems and using program information to reach conclusions about probable causes. Some branches of a decision-tree process may lead to problems or investigations that require complex statistical analyses, but only several levels into the process. For example, using a case of poor performance on an agency's "expenditures per 26 rehabilitation," an examination of cost/closure and cost/case may reveal that the agency is achieving too low a proportion of 26 closures or might suggest that the system is either serving clients too slowly or not serving enough clients. Each of these possibilities can also be explored at the second level. These alternatives are shown schematically in Figure 4. "Third level" indicators may be needed to explore the selected alternative further, before deciding on a specific course of action. The information necessary to address these issues may be found in other data elements within the standards system or may suggest the need for more formal evaluation research.

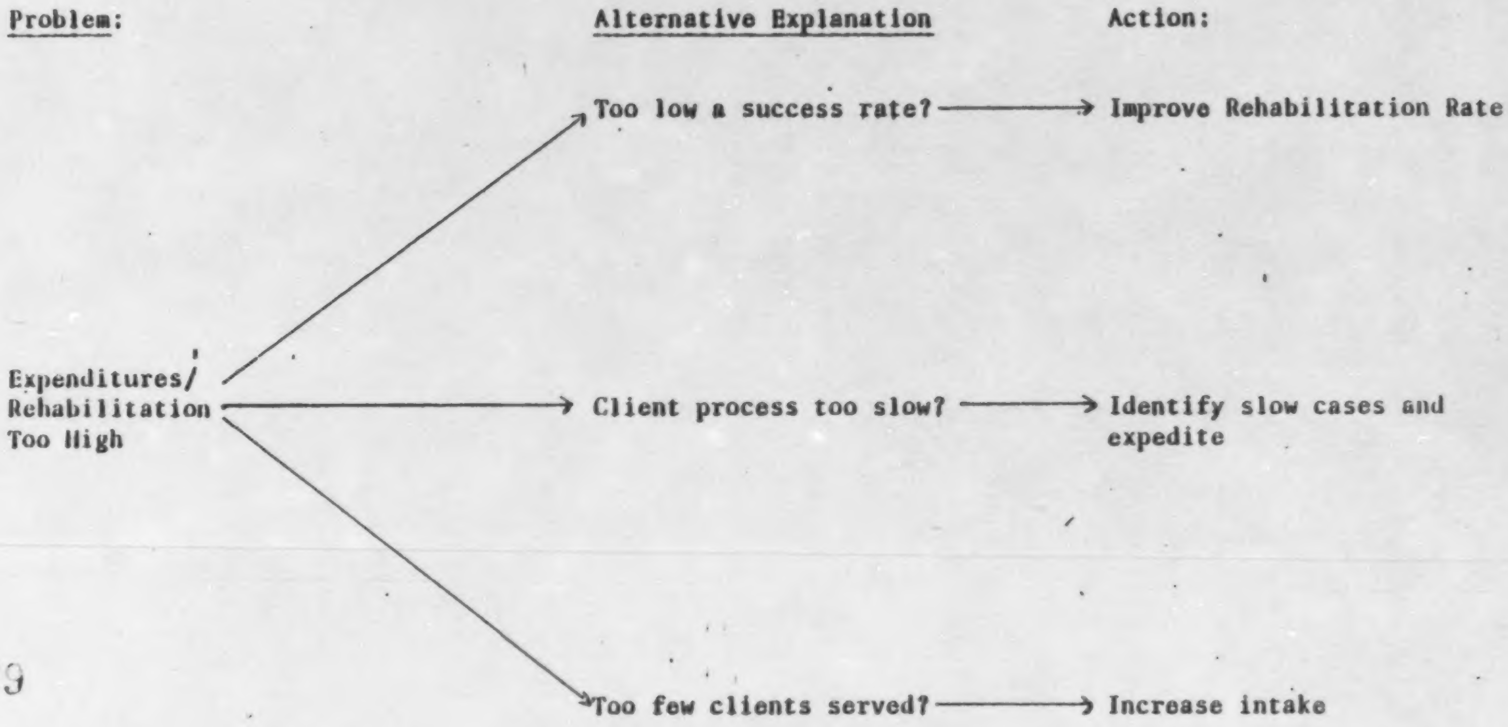
Table 6 . shows in more detail the decision-steps in this example exploration. The column headed "first level indicators" shows four possible combinations of two other indicators, cost/closure and cost/case, which we suggest using in conjunction with an unacceptable (high) value of data element 2(ii). Depending on acceptable or unacceptable levels of these indicators, a different "scenario," or type of problem, is identified. For instance, if both of these indicators are "acceptable," then this indicates that the agency is achieving a proportion of 26 closures which is too low. This can be confirmed by referring to data element 3(i). If cost/closure is unacceptable, but the cost/case is acceptable, then the agency is achieving too few closures. As can be seen here, this first level diagnosis leads to in-depth investigation of different parts of the system. The table shows the types of second- and third-level questions that could be pursued, depending on the initial comparisons and explanation. Appendix A of this report contains tables like this for the other data elements, plus step-by-step displays to guide the manager or analyst through each "decision tree."

At each level of the investigation, the goal should be to quickly and more finely hone in on the precise nature (i.e., cause) of the problem. Depending on the findings generated by a given level of the analysis, the program manager may decide either: that further investigation is warranted before formulating a policy response; that the findings are adequate to suggest an appropriate response; or that, despite the adequacy of the findings, no useful policy response can be offered (e.g., due to prior institutional, legislative, or funding constraints).

The indicators used in the investigation of problematic attainment are grouped and sequenced in such a way as to answer increasingly detailed questions. This allows managers and evaluators to go a fair distance in

Figure 4

Investigating a Problem: Expenditures/Rehabilitation Too High


Problem:
Alternative Explanation
Action:
Expenditures/ Rehabilitation Too High
Too low a success rate?
Improve Rehabilitation Rate
Client process too slow?
Identify slow cases and expedite
Too few clients served?
Increase intake

determining the nature of the problem before needing recourse to more sophisticated and time-consuming "causal" analyses. This is not to say that other sophisticated analyses are undesirable or unnecessary. On the contrary, they as often as not may prove useful to managers in pinpointing precise causes of problem performance. However, the advantage of this model is that it allows the agency to quickly investigate and discard certain hypotheses regarding the problem's cause, and therefore to more quickly direct the investigation toward what seems to be the likely cause. Once the likely cause is identified through use of the indicators, the manager can direct the evaluation/research staff to conduct the needed causal analyses.

In the discussion which follows, we illustrate the chronology of thinking and analysis which should occur prior to the formulation of a policy response, using numerical examples from the MEU data collected for the pretest or available from reports.

## EXAMPLES

The discussion presents two working examples of the supportive evaluation process. These two examples include investigating an agency-level data element 2(ii), cost per 26 closure, which was used also for Table 6 and a client-level data element 5(i), percent 26 closures competitively employed. These analyses will include indicators from state data, the standards data elements, and information contained on the R-300, RSA-2, and RSA-101. The reader should refer to Table 6, and its branches, in reading through the first example.

One important point must be made before this presentation of the investigation process can begin. In our examples, we use standards pretest data from the six Model Evaluation Units (MEUs). These analyses were subsequently reviewed with the agencies' evaluation staffs to verify interpretations. The purpose of the examples is to offer a more concrete demonstration of the use of the system. The analyses we present reflect the amount of information available in the pretest and should be interpreted only to the extent that it follows from the results presented. Moreover, there was only one year of data available in the pretest, and there were

## Table 6

### Problem: Expenditures Per Rehabilitation Are Too High

| Scenario | First Level Indicators |  |  | Second Level Indicators |  | Third Level Indicators (if applicable) |  |
|---|---|---|---|---|---|---|---|
|  | Expenditures/ Closure | Expenditures/Case | Implication |  | "Leading Questions" |  | Evaluation Questions |
| 1 | Acceptable | Acceptable | Agency is achieving too low a proportion of 26 closures | Standards Data Element 3(i)<br>$\left(\frac{\#26}{\#26+\#28+\#30}\right)$ | Is the % too low?<br>If yes, why? | None (go to next column) | Analysis of successful closures |
|  |  |  |  |  | If no, which clients or components cost too much? | Service costs to:<br>-- 26s<br>-- 28s and 30s<br>-- 08s | What is the average life-of-case cost for each closure group?<br>What proportion of total life-of-case costs are spent on each closure group? |
|  |  |  |  |  |  | Service costs by service type | What proportion of current service costs went to each service type?<br>What is the average cost of each service type, for clients receiving that service? |
| 2 | Too High | Acceptable | Agency is serving clients too slowly: achieving too few closures | Post-Acceptance Closure Rate<br>$\left(\frac{\#26+\#28+\#30}{\#\text{ open cases}}\right)$ | Is the service process too slow? | Timeliness 10-12/12-24<br>Average time from acceptance to closure (10-24) | Which aspect of services for accepted clients takes relatively too long? |
|  |  |  |  |  | Have we had a recent influx of acceptances? | Rate of acceptance | None (end of investigation) |
| 3 | Acceptable | Too High | Agency has recently developed a bottleneck in intake process: too few clients being accepted into the system | Standards Data Element 1(ii)<br>$\left(\frac{\#\text{ served (10-30)}}{100{,}000\text{ population}}\right)$<br>Rate of acceptance<br>$\left(\frac{\#\text{ of new status 10s}}{\#\text{ new applicants} + \#\text{ on-hand applicants} + \#\text{ on-hand 06s}}\right)$ | Do we have too few applicants? | # of applicants (From RSA-101) | Could outreach be made more effective? |
|  |  |  |  |  | Does use of Extended Evaluation account for the low acceptance rate? | R-300 item (06 takes too long)<br>% 02 = > 06 (too many enter 06) | What kinds of clients are going into 06?<br>What kinds of services are provided during 06? |
|  |  |  |  |  | Do we have too many ineligible applicants? | 02 = > 08 and 06 = > 08 | What reasons are given for closing clients ineligible?<br>From where are these clients being referred? |
| 4 | Too High | Too High | Agency has both an intake and a timeliness problem | Same as 2 and 3 |  | Same as 2 and 3 |  |

no a priori data element objectives set by these agencies. Since the attainment of an agency on a data element should be interpreted by a comparison to agency operating goals, a low value on a data element might or might not indicate problematic attainment. With this in mind, let us turn to a specific example using data element 2(ii), expenditure per 26 closure.

## EXAMPLE ONE: AN AGENCY-LEVEL DATA ELEMENT, EXPENDITURES PER REHABILITATION

### The Problem

The data element in the example includes both cost data (the numerator is total agency expenditure in the year) and impact data (the denominator is the number of 26 closures or rehabilitations achieved in the same period). For this example, we will assume that an agency, which we will designate as Agency A, has recorded an unusually high value for expenditures per rehabilitation. In investigating the performance of Agency A on expenditure per 26 closure, shown in Table 7, Agency A's program manager looks at two other agency's information to verify that performance on this data element is indeed high:

Table 7

Expenditure Per Rehabilitation

| Agency | Expenditures/Rehabilitation |
|---|---|
| A | $ 4,461.30 |
| B | $ 2,408.64 |
| C | $ 3,892.78 |

From this table, we see that Agency A has a high cost per 26 closure, compared to Agencies B and C, located in the same RSA region. In an actual case, Agency A would be using additional information such as comparisons to past agency performance, to other similar agencies, or to other baseline data. In our analysis, we rely solely on the pretest data, and therefore base our example on comparisons with two other states.

First Level Indicators (see Table 6, "First Level Indicators")

In order to analyze attainment on this data element, the program manager must attempt first to determine which of the data element's components explains "the problem": specifically, has the agency failed to obtain a large enough number of rehabilitations (i.e., the denominator is small relative to the numerator)? Or, alternatively, does the agency have a problem controlling its various costs (numerator large relative to denominator)? It may appear that, in the context of this data element, the two issues are interrelated and inseparable: if costs per 26 closure are high, then by definition the agency has both "lost control" of its costs relative to the number of 26's produced, and it has failed to produce an appropriate number of 26's given its expenditure level. However, despite the intuitive sense of this linkage, the numbers and cost questions can and need to be separated in analyzing the data element. This will be shown below.

The method developed for analyzing this data element is as follows. First, we make a preliminary assumption that the problem lies in the agency's "26 factor"; that is, in the speed and frequency with which the agency produces 26 closures. Only if the first and second level indicators suggest no production (26's) problem, will the manager undertake a cost analysis.

Thus, the first question the manager asks is "why do we have so few 26 closures?" One way to analyze this question is to place it in the context of a client flow problem. That is, the agency's low number of 26 closures may be the result of some bottleneck or failure in the service process. This is the approach taken below, which identifies four separate flow problems (moving from the latest to the earliest phases of the service process):

1. The agency is rehabilitating too small a proportion of its accepted closures.
2. The agency is achieving too few closures, in general, due to bottlenecks in the service process for accepted clients (timeliness problem). Stated from a different focus, the accepted clients of the agency are spending relatively longer periods of time in the various service statuses.

This reduces the pool of clients nearing closure, and thus reduces the pool of potential 26 closures.

3. The agency is accepting too few clients, thus cutting off the flow of potential 26 closures (intake problem).
4. The agency has both an intake and a timeliness problem.

The manager can test each of these hypotheses by looking simultaneously at two related indicators: total expenditure per closure; and total expenditure per accepted case. These two indicators use the same numerator (total expenditures) as is used in the data element, 2ii: expenditure per rehabilitation. However, they "spread" the expenditures over larger groups and by analyzing the size of those larger groups in relation to expenditures, the manager gets an idea of what (if any) kind of flow problem exists.

The results of this investigation follow:

Table 8

Expenditure Per Closure and Expenditure Per Case

| Agency | Expenditure/Closure | Expenditure/Case |
|---|---|---|
| A | $3,428.60 | $1,573.69 |
| B | 1,757.51 | 714.58 |
| C | 2,429.91 | 1,108.10 |

(From the RSA-2 and RSA-1)

Based on Agency A's comparison to the other two agencies, the program manager concludes that this agency has both an unacceptably high expenditure per closure and expenditure per case. The former suggests that clients are moving through the service statuses at a slow pace (a service bottleneck, due to a timeliness problem or to an increased provision of long term services). The latter suggests that the existence of an intake bottleneck, because a smaller caseload size will result in a high average expenditure per case.

## Second Level Indicator for Investigating High Expenditures Per Closure

As a rough test of the existence of service bottlenecks (as evidenced by a high cost/closure), the program manager tuns to the second level indicator, post-acceptance closure rate. This incicator compares the number of cases cloded during the reporting period to the number of open cases. If this percentage declined over time it would indicate a slowing trend in the flow of closures. For any given reporting period, a low percentage -- low, that is, in relation to other baseline figures -- indicates a service flow that is too slow, and perhaps in need of adjustment.

The results of this comparison follow:

Table 9

Post-Acceptance Closure Rate

| Agency | Percentage of Closed to Open Cases |
|---|---|
| A | 85% |
| B | 69% |
| C | 84% |

(From the RSA-101)

Based on Agency A's comparison to the two other agencies, the post-acceptance closure rate is found to be comparable to Agency C and only 15 points above Agency B. In the absence of other baseline information, the manager rejects the service bottleneck hypothesis. The manager would then examine past data on the number of applicants desiring VR services to see if a recent influx of applicants is skewing the results to make it appear that expenditure/closure is problemmatic. (In the pretest analysis, we did not have the historical data to make this examination.) If this does not explain the high expenditures per closure, then the program manager would assume it to be a cost problem and investigate from that angle.

## Second Level Indicator for Investigating High Expenditure Per Case

The next situation to be examined is Agency A's high expenditure per case. It is possible that the high expenditure per rehabilitation may be the result of an intake bottleneck -- that is, the number of the closures is low because the agency is accepting too few clients into service, thus cutting off the flow of potential 26 closures.

As the first test of this hypothesis, the manager looks at the agency's rate of acceptance, or the ratio of newly accepted clients to all new applicants, on hand applicants, and clients in extended evaluation.

Table 10

Acceptance Rate

| Agency | Acceptance Rate (in %) |
|---|---|
| A | 39% |
| B | 53% |
| C | 43% |

The acceptance rate (newly accepted clients is a percentage of all clients) again shows Agency A with low performance. However, before concluding that Agency A has an intake bottleneck, the program manager will also want to examine the accepted VR population relative to the state's population (number served per 100,000 population, standard 1, data element ii). This investigation reveals the following:

Table 11

VR Clients Per 100,000 State Population

| Agency | Number of Clients/100,000 |
|---|---|
| A | 404.6 |
| B | 690.6 |
| C | 474.1 |

Based on a low rate of acceptance and a low number served per 100,000 population, the program manager concludes the existence of an intake bottleneck, and calls for an examination of the intake process.

## Third Level Indicators and "Leading Questions" (see Table 6, "Third Level Indicators")

At the third level, various explanations of the intake problem are explored. Three separate practices, in combination or together, may explain why there are too few clients entering the system:

- extended evaluation is overused;
- too many ineligible clients are accepted;
- too few people apply.

To determine whether extended evaluation is overused, the manager examines the percentage of agency clients which are placed in extended evaluation (Status 06). In our example, Agencies B and C continue to be used for comparison purposes. Alternatively, the agency might use a preset standard based on national norms or past state statistics.

Table 12

Percentage of Clients in Status 06

| Agency | % |
|---|---|
| A | 16.0% |
| B | 1.2% |
| C | 6.5% |

(From the RSA-101)

The results indicate an unusually high percentage of clients placed in extended evaluation. (This might be investigated further by obtaining data on the average time in status for 06 clients and reviewing the historical use of status 06 in Agency A and the types of disabilities common to 06s.) The available figures seem to indicate an overuse of status 06. However, the knowledge of program managers may indicate that this is not the case, or that evaluation research is required to answer the problem.

In addition to the findings concerning the use of extended evaluation, the manager will also want to look at the percentage of ineligible applicants. This investigation reveals:

Table 13

Percentage of Ineligible Applicants

| Agency | % |
|---|---|
| A | 39.3% |
| B | 31.8% |
| C | 41.6% |

(From the RSA-101)

Based on these figures, the percentage of clients declared ineligible for services does not appear unusual in Agency A and is not judged to be a source of the intake problem.

The last area to be investigated in the effort to locate the source of the intake bottleneck is the number of applicants for VR services. For the purposes of example we will use the state population as a base to allow for an across-states comparison. (If this were a within-state comparison of administrative regions, the state can use local census data as the base for calculations.)

Table 14

Applicants as a Percentage of State Population

| Agency | Applicants | State Population | % |
|---|---|---|---|
| A | 2,510 | 582,000 | .43% |
| B | 62,627 | 11,731,000 | .53% |
| C | 23,419 | 5,197,000 | .45% |

(From the RSA-101 and Census Projections)

Based on these results, the following conclusions can be drawn concerning the intake process in Agency A:

- The extended evaluation status seems to be overused, thus reducing the overall acceptance rate. Average time in this status also needs to be investigated. If this turns out to be a problem, then the manager will want to do a within-state examination of practice, using the same table abalysis to compare administration regions, and to examine the types of clients that are being placed in 06, as well as the kinds of services that are being planned.

- The number of clients declared ineligible for services does not appear to be a source of the intake problem.
- With the available data the number of applicants has not been accepted or rejected as a source of the problem; numbers of applicants in the past years should be examined to determine if this ratio is stable, or is now particularly low. Also, an examination of the applicant pattern within the state may identify trouble offices or districts. If the current number of applicants appears to also be a problem, then the program manager will want to examine outreach and intake methods to see if they can be made more effective.

## EXAMPLE TWO: A CLIENT-LEVEL DATA ELEMENT, PERCENT 26 CLOSURES COMPETITIVELY EMPLOYED

In this discussion we present another example of the process to be used by program managers in investigating problematic attainment, this time using a client-level data element instead of an agency-level measure. As in Example One, we use comparative state-level data. The same type of analysis can be used to determine patterns of performance within states. (District, Region, Area, or Office comparisons.)

### The Problem

For the example, let us assume that for data element 5(i), percent 26 closures competitively employed, a goal of three such placements in four rehabilitations (75%) has been established. In the results of data element 5(i), three of the six pretest states showed problematic attainment. These states, X, Y, and Z, have 74%, 73.3%, and 42.2% of 26 closures competitively employed, respectively. Agencies X and Y are general or combined agencies. Agency Z serves the blind. Ordinarily, Agency Z would be compared with other similar programs and perhaps would have a different "standard." But for illustrative purposes, these three agencies are examined together.

First Level Indicators (see Appendix A, Standard 5, Data Element 1)

The potential problem identified is that a significantly large proportion of 26 closures are not being placed into competitive employment. With this in mind, the first question asked by the program manager is "What happened to those non-competitively employed 26 closures?" To answer this, the program manager goes to the R-300's for 26 closures and selects for work status at closure.

This investigation reveals the following information:

Table 15

Categories of Non-Competitive Placements as a Percentage of Total Placement

| | X | Y | Z |
|---|---|---|---|
| Sheltered Workshops | 11.3% | 0.7% | 11.1% |
| Business Enterprise Program | - | - | 2.2% |
| Homemakers | 13.6% | 26.0% | 43.3% |
| Unpaid Family Workers | 1.1% | - | 1.1% |
| TOTAL | 26.0% | 26.7% | 57.7% |

(Available on the R-300)

Of course, this information cannot be interpreted independently; it needs a qualifier to put it in the necessary context. Once the program manager knows the placement pattern for the non-competitively employed 26 closures, the next question to be answered is "Are these non-competitive closures appropriate?" More important, "Is this what the clients wanted?" To answer this, the program manager again goes to the R-300's for 26 closures, and gets vocational goals vs. outcome information (data element 5(iii)).

The findings from this investigation follows:

Table 16

Comparisons of Work Status Objectives and Outcomes

| | X | Y | Z |
|---|---|---|---|
| WORK STATUS OBJECTIVE | | | |
| Competitive Goal | 80.5% | 76.0% | 45.5% |
| Non-Competitive Goal | 19.5% | 24.0% | 54.5% |
| WORK STATUS OUTCOME | | | |
| Competitive Outcome | 74.4% | 73.3% | 42.0% |
| Non-Competitive Outcome | 25.6% | 26.7% | 58.0% |
| OBJECTIVE AND OUTCOME | | | |
| Competitive Goal - Competitive Outcome | 71.0% | 73.0% | 38.6% |
| Competitive Goal - Non-Competitive Outcome | 9.5% | 3.0% | 6.8% |
| Non-Competitive Goal - Competitive Outcome | 3.4% | 0.3% | 3.4% |
| Non-Competitive Goal - Non-Competitive Outcome | 16.0% | 23.7% | 51.1% |

With this information being used in conjunction with the work status at closure (see previous table), the program manager is now in a position to make some conclusions about agency performance.

On the surface, for Agency X, the "under-achievement" factor (competitive goal and non-competitive outcome) seems to be very high (9.5%). But also notice that Agency X has the highest percentage of clients desiring competitive employment as their vocational goal. In the absence of information of past performance (and performances of other states), Agency X seems to have encouraged many of their clients to strive for competitive employment. While a large percentage of clients desiring competitive employment did not achieve this (9.5%), Agency X seems to have made an effort to maximize their rate of competitively employed 26 closures. Of those not competitively employed, they are almost evenly distributed between sheltered workshop employees and homemakers. This would indicate that there is little or no creaming of clients into the homemaker status. Based on these considerations and the closeness of the performance (74%) to the norm, Agency X's attainment on this data element does not appear problematic.

Agency Y shows a high correlation between vocational goal and outcome. The "overachievers" (clients with non-competitive goals and competitive outcomes) and "underachievers" (competitive goals and non-competitive outcomes) have been minimized. Upon seeing the high correlation between goal and outcome, the program manager would want to examine this for other similar states as well. The manager might find that few states have such a high goal-outcome correlationship, since it is perfectly acceptable for clients' and counselors' views on an appropriate vocational goal to change as the program progresses. If this investigation reveals a potential problem, the manager might want to go to another step and examine expenditure per closure (as in the previous example) to see if the effort is being made to persuade clients to strive for a higher goal. Another area that may be problematic is the use of the homemaker status. We find that practically all of the non-competitive closures were closed as homemakers (26% homemakers out of 26.7% non-competitively employed). As such, some (hypothetical) recommendations for action for Agency Y are possible:

1. Persuade counselors and clients to strive for a higher closure status than homemaker. Use performance measures to reward "higher" closures and provide incentive for vocational placement.
2. Direct counselors not to overuse the homemaker status, but to use the other non-competitive statuses, or try for competitive employment.

Agency Z shows the highest percentage of clients desiring non-competitive employment. As the sole blind agency in this analysis, this agency's figures differ from the other two. As previously mentioned, such comparisons should ordinarily be made with like states. Over 50% of Agency Z's 26 closures strived for and achieved non-competitive employment. Most of these were homemakers (43.3%), or employees in sheltered workshops (11.1%).

For a blind agency, is a figure of 42% appropriate for competitive employment, or too low? (At this point, the program manager would want to compare the percentage of competitively employed 26 closures in Agency Z to another similar blind agency. In our pretest, there were no other blind agencies. But, for the purposes of this exercise, let us assume that 42% is too low and that the result could be improved. Also, exogenous factors in Agency Z might influence the possibility for competitive employment. All these factors would influence an actual investigation.) Recommendations (hypothetical) for Agency Z for action include:

1. Provide incentives for counselors and clients to strive for competitive employment placements.
2. Initiate a job development program to stimulate the creation of placement opportunities in competitive settings.

Thus, in this particular example, one state agency does not, in fact, appear to have a "problem" on this element. For the other two, specific actions can be formulated. In the example, we used an arbitrary performance level to flag problems. An agency might adopt such a level as a policy, and set annual goals, or use previous performance as a benchmark (use the previous level, if it is acceptable, or plan for an increase, if previous levels were too low).

In both examples, we see how simple program measures, used in juxtaposition with other measures and program knowledge, can be used to identify particular system components that may need attention. By themselves, most program measures give an incomplete picture at best, or may be confusing. But used as part of a step-by-step logical examination of program performance, these measures can provide program insight. Appendix A of this report provides tables,like Table 6 in this chapter, for other performance standards data elements, plus a step-by-step guide to the logical sequence of data comparisons. This Appendix is intended to be used as a guide to the kinds of analysis described in this chapter. An agency may introduce other data and program information which is available to support and enrich the analysis.

Some of the "branches" in the logic trees for the data elements suggest that further statistical work may be necessary. In our model, such analysis is only suggested after several branches have been explored, and a number of hypotheses rejected. There are a number of statistical techniques which have been developed in program evaluation research.

## EVALUATION RESEARCH

In investigating problematic attainment, there will be times when further statistical analysis will be required to identify possible problems and corrective actions. Data sources for the statistical analysis in such evaluation research will be many and varied. First are those sources resulting from routine reporting within the program; these include:

- the R-300;
- case reviews;
- closure and follow-up surveys;
- the agency-level standard statistical reporting forms;
- caseload statistics;
- summaries of agency organization types, resources, internal procedures, and service provision patterns; and
- the MIS and FMIS.

In addition to routine program reporting, other important data sources include information from other federal agencies and departments, and special studies conducted by RSA or by contract research. For example, the Departments of Labor and Commerce may provide useful information on national economic trends and labor market conditions. And special studies may be conducted for several reasons: to generate new knowledge on variables hypothesized to impact on program success; to further study or validate the relationship between program success and independent factors that already have been observed to impact on program success; or to update and/or provide information needed to test a "full" causal model of program success (examples here include the needs for data on client motivation and "counselor effort" by client).

For the most part, agency-level evaluation research will rely on already-published data, usually based on the full population of VR clients. Data sources here include the program data book and information on client characteristics and caseload statistics. Aggregate data on performance will be merged with information from other program reports (e.g., on costs, numbers served, services offered, and case reviews) and from data received from non-RSA sources (e.g., on economic and labor market trends). This pool of aggregated data will provide the bulk of information used in the agency-level evaluation research.

Evaluation research may require some analysis that calls for client data that is not regularly collected. If this is the case, such additional data collection chould be done on a smaller sample of clients. Part of the data collection for the standards data elements is already based on samples of clients, e.g., the closure survey, the case review. New data collection to support a client-level analysis would be on a one-time-only, as-needed basis and not part of the data collection system.

Evaluation research is intended to supplement the reports of state VR agency attainment on the standards. After such reports have been submitted, they will undergo review by program evaluators and managers, who will make preliminary determinations of the necessity for evaluation research.

The most important question for the evaluation research component concerns the types and levels of analysis for the research. First, two types of data collection and of analysis are noted. Then, two levels of statistical data analysis, micro and macro, operational studies, and statistical data studies, are described.

## Types of Data Collection and of Analysis: Operational Studies vs. Statistical Data Studies

So far all of the data collection that has been described has been of a "quantitative" nature, which is usually associated with evaluation research. However, there is a whole other style of data collection that is useful in evaluation research that is more qualitative. No attempt will be made here to specify the myriad types of qualitative data collection -- there is a vast literature on the subject (see e.g., Cook and Reichardt, or Bogdan and Taylor, or Douglas). The techniques of participant observation, of unstructured interviewing, or of investigative social research could all be used to identify possible problems and corrective actions. In the VR field, there is already a structure for such data collection, around the PARs or SMARs. The point is, that in the face of increasing data processing capabilities, the very important role of qualitative information must not be lost.

These operational studies can be used to generate hypotheses to be tested via statistical data analyses, or can be used to understand the findings from the statistical data analyses. Some of the qualitative information collected in the operational studies could be turned into quantitative data, usually at the ordinal or nominal level of measurement.

## Levels of Statistical Data Analysis

One of the first choices that must be made in deciding on the kinds of statistical data analysis to do is the choice of a level of analysis. Once the major choice between a micro and macro level of analysis is made, the analyst chooses the unit of analysis. Below, the difference between micro and macro analysis is described. Then, the relative advantages and disadvantages of a macro level of analysis are presented.

### Micro and Macro

The difference between a micro and a macro level of analysis is primarily a function of the perspective of the analyst. In economics, a micro level of analysis for understanding consumption focuses on the individual consumer; however, a micro level of analysis for understanding production focuses on the firm, a much larger unit of analysis. While one analyst's micro level of analysis may be another analyst's macro level of analysis, a crude but simple across-the-board distinction is helpful. Simply, a micro level of analysis is at the level of the smallest possible unit of analysis, with a macro level of analysis at some larger unit of analysis, subsuming many of the micro units of analysis.

For social service delivery systems, at the micro level of analysis the unit of analysis is usually the individual client. At the macro level of analysis the unit of analysis could be the counselor, the office, the district or region, or the state VR agency; in each case several micro units of analysis, i.e., clients, are subsumed under the macro unit of analysis.

A macro level of analysis for understanding social service delivery systems has several definite advantages over a micro level of analysis:

1. Certain planning and policy questions frequently asked are macro questions. The attempt to set standards to guide the performance of state VR agencies is a macro concern; the question is not whether individual clients are receiving quality services, etc., but whether the agency as a whole performs well.

2. Given the short length of time clients are in most social service delivery systems, changes in the system over longer periods of time cannot be analyzed using micro data. Even in a year-to-year analysis, there are also problems in linking data for a given client. Of course, there is some possibility of panel analysis, but this is difficult and expensive. As such, with macro data time series analysis becomes a possibility.

3. The measurement of a macro phenomenon can be fundamentally different from that of a micro phenomenon. Here, the advantage of a macro analysis is that the contextual effects of a particular program with specific organizational structure, clients, and services can be assayed. Two clients in different programs may have the same characteristics and receive the same services; however, the organizational structure and the mix of other services and clients might result in a much different impact.

4. Another advantage of a macro model is the aid in the examination of the effect of environment. A strong emphasis is placed in this analysis on the role of environment as a limiting and an additive force. It is very difficult to measure the environment at the individual client level. Even if such measurement were possible, there would be little variation from client to client, especially for those served by the same office or in the same local area. For example, the unemployment rate is only measurable at a macro level. If assigned to each individual in the area or other macro definition, then no variable would exist; there would be no variation, thereby preventing any analysis.

5. In a micro analysis individual differences and peculiarities come to the fore. In a macro analysis, these effects are wiped out. Neither is necessarily better. Sometimes the emphasis is on larger structural effects, and for this macro analysis is better.

6. Micro data can always be aggregated, whereas disaggregation of macro data is often difficult and sometimes impossible. Thus, micro is often preferred to macro. However, in social service delivery systems some data are available at the macro level which are not available at the micro level.

7. Certain concepts for understanding certain behaviors in a social service delivery system are macro concepts. For example, to understand client selection, the concept of population-at-risk is necessary, and this concept is a macro concept.

Both macro and micro analysis are necessary for evaluation research for the data-based decision support system. For VR evaluation, micro analysis refers to client-level analysis, although some macro data could be included in that analysis (e.g., attaching counselor characteristics to client information). Macro analysis refers to agency-level analysis. The focus of the federal standards system is on state VR agency behavior and, for RSA or national reporting, the macro level may be more useful. Micro analysis of subunits within the states, and of counselor behavior, will be more useful to individual state VR agencies.

Decision support is a term that covers the activity of using standards information and other program information to answer questions about the state's attainment in the provision of rehabilitation services. Through the creative use of this approach to employing program information, managers can work in the identification of practices and environmental conditions affecting attainment.

## VI. THE PROGRAM STANDARDS EVALUATION SYSTEM REPORTS

In the preceding chapters, we have reviewed the standards and their data element measures, and illustrated how these measures can be used to diagnose agency problems and point to corrective actions. To assist agencies in use of the standards system, we propose a series of routine reports to show state performance on the elements, both internally and in relationship to other states. In addition, a set of designs for displays of related data items, useful for decision support system analysis, is part of the reporting system. Both types of reports are intended to clearly represent standards findings to agency management. The reports have been designed in formats for computer generation.

The standards reporting system brings together the various sources of standards input data so that a particular agency's attainment for a specific time period can be compared to its objectives for the period. In addition, the reporting system will provide the program managers with the capability to flag and investigate problematic attainment, as we shall describe subsequently. To do these two things, the reporting system has been designed to:

- keep track of past performance as well as current expectations;
- present the findings in an easy to use, easy to understand way, without unwieldly reports, emphasizing graphical presentations as well as plain numbers; and
- make sure that the reporting of results occurs in a timely fashion, so that future performance can be influenced.

The standards system uses input data routinely generated even now in many state agencies' internal information systems. Thus, the evaluation standards system could be readily adapted by individual state agencies for their use. The calculation of national norms would require a national system however.

Tables 17, 18, 19, and 20 illustrate reports that can be routinely generated for the Performance Standards. The first set of reports (one state's example is seen in Table 17) shall show achievement on each of the

Table 17

## ACHIEVEMENT ON PERFORMANCE STANDARDS

Year: 1981

State: California

| | This Year | This Years Goal | 1980 | 1980 Nat'l Norm |
|---|---|---|---|---|
| 1. COVERAGE | | | | |
| (a) Clients served per 100,000 population | XXX.X | XXX.X | XXX.X | XXX.X |
| (b) Percent severely disabled served | XX.XX | XX.XX | XX.XX | XX.XX |
| 2. COST-EFFECTIVENESS AND BENEFIT COST RETURN | | | | |
| (a) Expenditures per competitively employed closure | $XX.XXX | $XX.XXX | $XX.XXX | $XX.XXX |
| (b) Expenditure per 26 closure | $XX.XXX | $XX.XXX | $XX.XXX | $XX.XXX |
| (c) Ratio of total VR benefits to total VR costs | XX.XX | XX.XX | XX.XX | XX.XX |
| (d) Total net benefit from VR services | XXXX.X | XXXX.X | XXXX.X | XXXX.X |
| 3. REHABILITATION RATE | | | | |
| (a) Percent 26 closures | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Annual change in number of 26 closures | XXXX | XXXX | XXXX | XXXX |
| 4. ECONOMIC INDEPENDENCE | | | | |
| (a) Percent 26 closures with weekly earnings at/above federal minimum wage | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Comparison of earnings of competitively employed 26 closures to earnings of employees in state | X.XX | X.XX | X.XX | X.XX |
| 5. GAINFUL ACTIVITY | | | | |
| (a) Percent 26 closures competitively employed | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Percent competitively employed 26 closures with hourly earnings at/above federal minimum wage | XX.XX | XX.XX | XX.XX | XX.XX |

Table 17 (continued)

| | This Year | This Years Goal | 1980 | 1980 Nat'l Norm |
|---|---|---|---|---|
| 5. GAINFUL ACTIVITY (continued) | | | | |
| (c) Percent noncompetitively employed 26 closures showing improvement in functioning and life status | XX.XX | XX.XX | XX.XX | XX.XX |
| 6. CLIENT CHANGE | | | | |
| (a) Comparison of earnings before and after VR services | $XXXX.XX | $XXXX.XX | $XXXX.XX | $XXXX.XX |
| (b) Changes in other statuses and functioning ability | XXX.X | XXX.X | XXX.X | XXX.X |
| 7. RETENTION | | | | |
| (a) Percent 26 closures retaining earnings at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Comparison of 26 closures with public assistance as primary source of support at closure and at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| (c) Percent noncompetitively employed 26 closures retaining closure skills at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| 8. SATISFACTION | | | | |
| (a) Percent closed clients satisfied with overall VR experience | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Percent closed clients satisfied with: | | | | |
| counselor | XX.XX | XX.XX | XX.XX | XX.XX |
| physical restoration | XX.XX | XX.XX | XX.XX | XX.XX |
| job training services | XX.XX | XX.XX | XX.XX | XX.XX |
| placement services | XX.XX | XX.XX | XX.XX | XX.XX |
| (c) Percent 26 closures judging services received as useful in obtaining their job/homemaker situation or in current performance | XX.XX | XX.XX | XX.XX | XX.XX |

Table 18

## ACHIEVEMENT ON PERFORMANCE STANDARDS: STATE COMPARISON

### GENERAL AND COMBINED AGENCIES

Standard: 1. COVERAGE

Data Element: (a) Clients Served per 100,000 Population

National Norm: XXX.X

| AGENCY | This Year | This Years Goal | 1980 | 1979 | 1978 | 1977 |
|---|---|---|---|---|---|---|
| ALABAMA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| ALASKA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| ARIZONA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| ARKANSAS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| CALIFORNIA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| COLORADO | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| CONNECTICUT | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| DELAWARE | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| DIST. OF COLUMBIA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| FLORIDA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| GEORGIA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| GUAM | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| HAWAII | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| IDAHO | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| ILLINOIS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| INDIANA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| IOWA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| KANSAS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| KENTUCKY | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| LOUISIANA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MAINE | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |

Table 18 (continued)

## BLIND AGENCIES

| AGENCY | This Year | This Years Goal | 1980 | 1979 | 1978 | 1977 |
|---|---|---|---|---|---|---|
| CONNECTICUT | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| DELAWARE | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| FLORIDA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| IDAHO | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| IOWA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| KANSAS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| KENTUCKY | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MASSACHUSETTS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MICHIGAN | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MINNESOTA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MISSISSIPPI | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MISSOURI | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| MONTANA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| NEBRASKA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| NEW JERSEY | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| NEW YORK | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| NORTH CAROLINA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| OREGON | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| PENNSYLVANIA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| RHODE ISLAND | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| SOUTH CAROLINA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| TENNESSEE | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| TEXAS | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| UTAH | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| VERMONT | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| VIRGINIA | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| WASHINGTON | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |

Table 19

## ACHIEVEMENT ON PERFORMANCE STANDARDS: SUB-STATE COMPARISONS

Standard: 1. Coverage

Data Element: (a) Clients Served per 100,000 Population

State Goal: XXX.X

State Average: XXX.X

| DISTRICT (OR OFFICE) | This Year | This Years Goal | 1980 | 1979 | 1978 | 1977 |
|---|---|---|---|---|---|---|
| A | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| B | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| C | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| D | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| E | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| F | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| G | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| H | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X | XXX.X |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |
| . | . | . | . | . | . | . |

Table 20

## ACHIEVEMENT ON PERFORMANCE STANDARDS

## ALL AGENCIES

Year: 1981

| | | Nat'l Norm | General | Blind | Combined |
|---|---|---|---|---|---|
| 1. | **COVERAGE** | | | | |
| | (a) Clients served per 100,000 population | XXX.X | XXX.X | XXX.X | XXX.X |
| | (b) Percent severely disabled served | XX.XX | XX.XX | XX.XX | XX.XX |
| 2. | **COST-EFFECTIVENESS AND BENEFIT COST RETURN** | | | | |
| | (a) Expenditures per competitively employed closure | $XX.XXX | $XX.XXX | $XX.XXX | $XX.XXX |
| | (b) Expenditure per 26 closure | $XX.XXX | $XX.XXX | $XX.XXX | $XX.XXX |
| | (c) Ratio of total VR benefits to total VR costs | XX.XX | XX.XX | XX.XX | XX.XX |
| | (d) Total net benefit from VR services | XXXX.X | XXXX.X | XXXX.X | XXXX.X |
| 3. | **REHABILITATION RATE** | | | | |
| | (a) Percent 26 closures | XX.XX | XX.XX | XX.XX | XX.XX |
| | (b) Annual change in number of 26 closures | XXXX | XXXX | XXXX | XXXX |
| 4. | **ECONOMIC INDEPENDENCE** | | | | |
| | (a) Percent 26 closures with weekly earnings at/above federal minimum wage | XX.XX | XX.XX | XX.XX | XX.XX |
| | (b) Comparison of earnings of competitively employed 26 closures to earnings of employees in state | X.XX | X.XX | X.XX | X.XX |
| 5. | **GAINFUL ACTIVITY** | | | | |
| | (a) Percent 26 closures competitively employed | XX.XX | XX.XX | XX.XX | XX.XX |
| | (b) Percent competitively employed 26 closures with hourly earnings at/above federal minimum wage | XX.XX | XX.XX | XX.XX | XX.XX |

Table 20 (continued)

| | Nat'l Norm | General | Blind | Combined |
|---|---|---|---|---|
| 5. GAINFUL ACTIVITY (continued) | | | | |
| (c) Percent noncompetitively employed 26 closures showing improvement in functioning and life status | XX.XX | XX.XX | XX.XX | XX.XX |
| 6. CLIENT CHANGE | | | | |
| (a) Comparison of earnings before and after VR services | $XXXX.XX | $XXXX.XX | $XXXX.XX | $XXXX.XX |
| (b) Changes in other statuses and functioning ability | XXX.X | XXX.X | XXX.X | XXX.X |
| 7. RETENTION | | | | |
| (a) Percent 26 closures retaining earnings at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Comparison of 26 closures with public assistance as primary source of support at closure and at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| (c) Percent noncompetitively employed 26 closures retaining closure skills at follow-up | XX.XX | XX.XX | XX.XX | XX.XX |
| 8. SATISFACTION | | | | |
| (a) Percent closed clients satisfied with overall VR experience | XX.XX | XX.XX | XX.XX | XX.XX |
| (b) Percent closed clients satisfied with: | | | | |
| counselor | XX.XX | XX.XX | XX.XX | XX.XX |
| physical restoration | XX.XX | XX.XX | XX.XX | XX.XX |
| job training services | XX.XX | XX.XX | XX.XX | XX.XX |
| placement services | XX.XX | XX.XX | XX.XX | XX.XX |
| (c) Percent 26 closures judging services received as useful in obtaining their job/homemaker situation or in current performance | XX.XX | XX.XX | XX.XX | XX.XX |

standards for a given agency. In addition to showing this year's performance, the table also will show the state's goal for the year, its last year's performance, and the previous year's national norm. With this information, agencies can see how successful they were in meeting their goals for each of the data elements. They can also compare this year's performance with last year's to see where they have and have not improved. Finally, agencies can assess their current performance in relation to recent national norms. This type of report gives program managers an overall view of agency performance while at the same time pointing out specific strengths and weaknesses, currently and over time. If problematic attainment is identified, the data based decision support system can be used to assist managers in daignosing and correcting the problem. A particular advantage of most of the system reports (Tables 17 and 19) is that their "turnaround" time can be relatively short because the reports use only the individual agency's data (and a previous year's national norm). Computing current year national or regional norms for Tables 18 and 20 requires data submissions from all relevant states.

In addition, national reports should be prepared by RSA and/or the Council of State Administrators of Vocational Rehabilitation for each data element that will display all agencies' performance on each particular element. Table 18 shows an example for data element 1(i). This year's goal as well as performance in the four previous years can be presented. Agencies can use the information to compare their performance and their goals to other similar agencies. By providing data for the four previous years, trends over time can be analyzed. Agencies and RSA will be able to determine if performance has steadily improved over time or if this year's performance is noticeably different than previous years. States are listed in alphabetical order; they could easily be sorted and listed by region, by type of agency, or by performance. Looking at the national data in Table 18, a state VR agency could even expand the national data output displayed in Table 17 if desired.

Table 19 has an output design like Table 18, but shows information by substate unit. (Regions, Areas, Districts, Offices, or Counselors can be used in this breakdown, according to agency administrative structure and size.) This report is useful for examining problem areas within states, to account for problematic performance at the state level.

Table 20 shows an example report of national performance for each data element for all agencies, and for general, combined, and blind agencies. This allows a program-wide view of performance in VR.

These three types of reports can be generated routinely for all of the agencies and all of the data elements. They provide information in a brief, easy-to-read format. In addition, RSA and the agencies will have the capability to use the standards information to generate special purpose reports, analyses, and graphic displays. For example, the basic reports could be run separately for special populations. These may take the form of statistical reports or of graphic displays.

The system calls for access to a number of supporting information items useful in analyzing and interpreting the routine reports. These information items feed into the decision-support system discussed earlier. Based on any problems that emerge in the agency's standards performance, program managers will inspect particular information items keyed to the various standards data elements.

The displays on the following pages are to be used to follow the decision trees step-by-step; they illustrate possible displays for an interactive computer system. A complete set of these displays, for the performance standards data elements, can be found with the corresponding decision tree tables in Appendix A of this report.

Figure 5

## Example Displays of Steps in Analysis of Rehabilitation Problems

### DISPLAY 1.2.0

PRIMARY PROBLEM: THE PERCENTAGE OF THE CASELOAD THAT IS SEVERELY DISABLED IS TOO LOW

| | |
|---|---|
| TEST (FIRST LEVEL INDICATORS): | REHABILITATION RATES FOR SDs COMPARABLE TO AGENCY REHABILITATION RATE? |
| # SEVERELY DISABLED IN CASELOAD | |
| XXXX (NORM) | XXXX (NORM) |
| XXXX (VALUE) | XXXX (SD RATE) |
| A. TOO LOW? | B. LOWER THAN AGENCY RATE? |
| YES | YES |
| NO | NO |

IF NO TO BOTH A. AND B., GO TO DISPLAY 1.2.1

IF NO TO A., YES TO B., GO TO DISPLAY 1.2.2

IF YES TO A., NO TO B., GO TO DISPLAY 1.2.3

IF YES TO BOTH A. AND B., GO TO DISPLAYS 1.2.2 AND 1.2.3

Figure 5 (continued)

### DISPLAY 1.2.1

SECONDARY PROBLEM: THE PERCENTAGE OF THE CASELOAD THAT IS SEVERELY DISABLED IS TOO LOW, BUT THE NUMBER OF SEVERELY DISABLED CLIENTS MEETS AGENCY STANDARDS AND THE REHABILITATION RATE OF THESE CLIENTS IS CLOSE TO THE OVERALL AGENCY RATE OR BETTER

TEST (SECOND-LEVEL INDICATOR): DOES THIS REPRESENT EXCESSIVE COSTS?

COST/CLOSURE (D.E. 2II):

TOO HIGH? YES

NO

A. ANALYZE COSTS X S.D., NON-S.D. TO SEE IF COSTS ARE COMPARABLE. IF NOT:

B. EXAMINE S.D. CASES IN CASE REVIEW TO DETERMINE IF TOO MUCH IS SPENT ON THE CASES.

IF YES:

C. GO TO DISPLAY 2.2.0

IF NO, LOW PERFORMANCE ON THIS DATA ELEMENT DOES NOT INDICATE A PROBLEM

Figure 5 (continued)

## DISPLAY 1.2.2

SECONDARY PROBLEM: THE PERCENTAGE OF THE CASELOAD THAT IS SEVERELY DISABLED IS TOO LOW, THE NUMBER OF S.D. CLIENTS MEETS AGENCY STANDARDS, BUT THEIR REHABILITATION RATE IS LOWER THAN THE OVERALL AGENCY RATE

TEST (SECOND LEVEL INDICATOR): EXAMINE THE RATE AND TIMELINESS FOR SD CLIENTS

TIME IN PROCESS

XXXX (SDs)

XXXX (NORM)

LONGER TIME FOR SERVICE?

YES

NO

IF YES, FORECAST CLOSURE DATES AND ANALYZE FUTURE COMPARABLE RATES TO TEST FOR LONG-RUN STABILITY ON THIS ELEMENT

ANALYZE NON-SUCCESSFUL SDs TO DETERMINE REASONS FOR LOWER REHABILITATION RATE

Figure 5 (continued)

## DISPLAY 1.2.3

SECONDARY PROBLEM: THE PERCENTAGE OF THE CASELOAD THAT IS SEVERELY DISABLED IS TOO LOW, THE NUMBER OF S.D. CLIENTS IS TOO LOW; THOSE CLIENTS DO, HOWEVER, HAVE A SUCCESS RATE CLOSE TO THE AGENCY RATE OR BETTER

TEST (SECOND LEVEL INDICATORS): THE PROBLEM IS EITHER IN LOW APPLICATION OF SDs, OR IN THE ACCEPTANCE RATE, OR BOTH

$\frac{\text{\# 02s SD}}{\text{\# 02s}}$

(VALUE) XXXX

(NORM) XXXX

TOO LOW?

YES

NO

IF # 02s SD IS TOO LOW, REVIEW OUTREACH PROCEDURES TO INCREASE NUMBER OF ELIGIBLE SD APPLICANTS.

% CLOSED 08 BY REASON OF SEVERITY:

(VALUE) XXXX

(NORM) XXXX

TOO HIGH?

YES

NO

IF YES, DO CASE REVIEWS TO EXAMINE THE CASES CLOSED TOO SEVERE TO ASCERTAIN IF CRITERIA FOR ACCEPTANCE ARE TOO LIMITED.

# VII. PROGRAM MANAGEMENT AND THE USE OF THE STANDARDS SYSTEM

In this final chapter, the role the standards system will play in the VR system is discussed, with an example of the use of the standards system. The actors who will be taking the correction actions are identified. The need for evaluating and changing the standards system over time is discussed. Finally, some comments on implementing the standards system are made.

## A REVIEW OF THE PROGRAM MANAGERS' USE OF THE STANDARDS SYSTEM

The steps in management use are:

(1) RSA and state VR agencies set objectives on each of the standards data elements for the cycle of operation;
(2) Reporting system flags problematic attainment by a particular state VR agency on a particular data element;
(3) RSA program managers and state VR agency program manager using the decision support system identify a possible problem and corrective actions; and
(4) Correction actions are taken by the various actors in the VR system.

An abbreviated example of the program managers' use of the standards system follows. Consider the clear vocational thrust of the VR program. While there are several manifestations of this thrust, one important goal for VR is economic independence for the disabled client. This goal is represented in the revised standards by Performance Standard 4. The data elements for this standard are based on the measurement of weekly earnings at closure. Suppose the reporting system identified a state agency with a low level of achievement for this standard, compared to its performance expectation. The data based decision support system would be used to identify why the state agency had this level of attainment and make recommendations about how to improve the agency's performance. First, program managers would try to identify problems using the information in the standards reporting system and the logic of the decision support system. The analysis may readily identify the action steps necessary to improve performance, or, more statistical analysis may be necessary. Using the macro (agency-specific) analysis, we might find that, after controlling for other factors, what explains low performance on earnings is the number of severely disabled in the caseload. However, no "action" for management is evident. Certainly, one would not recommend serving fewer severely disabled, given the priority for them in the 1973 legislation. More evaluation, in the form of client-level analysis, might identify that certain services are more useful in combination for obtaining higher paying jobs for the severely disabled. Possible corrective actions include: the issuance of an Information Memorandum on the usefulness of certain services for the severely disabled, perhaps giving such services priority; technical assistance by the regional office to help state agencies in the provision of such services; training of counselors by state agencies in the use of these services; funding of research, evaluation, or demonstrations by RSA for service provision to the severely disabled, thereby involving the Department of Education, OMB, and Congress; and promulgation of new regulations by RSA if needed.

## ACTORS AND CORRECTIVE ACTIONS

The actors with responsibility for making changes in the standards system are the same as in the VR system at large: Congress, OMB, Department of Education, RSA, Regional Offices of Rehabilitation Services, state governments, and state VR agencies. The set of actors and associated types of corrective actions are given below.

| Actors | Types of Corrective Actions |
|---|---|
| Congress, OMB, Department of Education | Funding levels<br>Allocation formulas<br>Priorities to client groups<br>Procedural requirements |
| RSA | Regulations<br>Monitoring<br>Evaluation<br>Research (along with NIHR)<br>Program development<br>Guidance materials<br>Training programs<br>Demonstrations |

| | |
|---|---|
| Regional Offices | Technical assistance to state VR agencies<br>Dissemination of information<br>Diffusion of innovations<br>Training |
| State Governments | Funding levels |
| State VR Agencies | Same as RSA (e.g., regulations, evaluation)<br>Eligibility determination changes<br>Counselor training<br>Case management changes<br>Service provision changes<br>Management of sub-units (e.g., districts, offices) |

## EVALUATING THE STANDARDS SYSTEM OVER TIME

The criteria for evaluating the revised standards system are very simple. The most important evaluative criterion is whether the attainment of the state VR agencies is improving in the areas measured by the standards data elements. While it may be very difficult to prove that the cause of the improvement was the implementation of the standards, at least the attainment of the agencies after the implementation can be compared to their attainment before the implementation. The second evaluation criterion is whether the state VR agencies are meeting their objectives. If they never meet their objectives, then the objective setting process is not working properly. If they always meet their objectives, then the process is also not working properly. Identifying for which state VR agencies, for which data elements, or for both in combination, which objectives are not being met, will indicate where attention needs to be paid in the standards system. The third evaluative criterion is whether the program managers find the system useful. Program managers should be regularly canvassed for their recommendations.

## CHANGING THE STANDARDS SYSTEM

A key word for the standards system should be flexibility. As the standards system operates, several factors outside the system may change:

- the goals and functions of the VR program may change, necessitating changes in the standards;

- reporting within or without VR may change, changing what will be available for the reporting system;
- the actors and types of corrective actions possibly may change;
- actions taken by state VR agencies might push the VR program in undesirable directions, as state program managers try to respond to the standards system, thus requiring additional standards or changed expectations; and
- the achievement of the state VR agencies may not be improving over time.

A number of factors inside the system may need change:

- some data elements may be found to have lower data quality than is acceptable, and thus require new procedures or even replacement;
- some of the data collection activities may require change, because of logistical problems;
- difficulties in the reporting system and in the reporting cycle may arise; and
- objectives being set may not be correct.

As such, RSA must monitor the operation of the standards system over time. In the beginning, the system should especially be closely monitored, so that problems can be discovered early. RSA must be ready to change the data elements in the standards system as needed.

## IMPLEMENTING THE STANDARDS SYSTEM

In its design of a standards system and in this presentation of the analytic paradigm, BPA has tried to:

- clearly identify the benefits of the use of the standards to the state agencies and to RSA staff;
- make the presentation of the paradigm as clear as possible; and
- keep eventual utilization in mind throughout.

To implement this system, state VR agencies and RSA should involve, from the very beginning, those program managers and others who will have to act on the standards -- state or RSA staff, agencies or regions, the data committee of CSAVR, and other users of the standards. State VR agencies and RSA should also "sell" the standards system through widespread promulgation, and agency endorsement.

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# APPENDIX A

## The Rehabilitation Executive's Evaluation System (TREES)

(Bound Separately)

(CE 036 210)

# APPENDIX B

# APPENDIX B

## DIMENSIONS OF A METHOD FOR SETTING OBJECTIVES

Implicit in methods for setting objectives are many different choices to be made in designing a method. These various choices are characterized below as dimensions of a method of setting objectives. In effect, a combination of choices along all of the dimensions defines a particular method. Given the number of dimensions and gradations along each, a very large number of methods can be generated. Rather than to be used to identify all possible methods, the discussion below is to be used to delineate the many issues around the final decisions on a method to be recommended.

The dimensions along which a method for setting objectives can differ include:

- general vs. agency-specific objectives;
- technical vs. normative approach;
- minimum vs. maximum objectives;
- logical vs. no logical basis for level;
- historically vs. ahistorically derived objectives;
- national vs. sub-national comparisons;
- objectives for agency vs. for sub-agency;
- adjusted vs. unadjusted objectives;
- single data element objectives vs. incorporating relationships into objective setting;
- stipulated vs. negotiated objectives; and
- general vs. standard specific methods.

### General vs. Agency-Specific Objectives

The simplest dimension to consider is whether to set these objectives for all agencies at once, or whether to tailor the objective to individual VR agencies. While for certain standards general levels of attainment might make sense, for example in the area of compliance with the IWRP requirements, for most standards an agency by agency setting of objectives seems necessary. The differences between agencies are great enough to warrant this individual attention in the objective setting process.

## Technical vs. Normative

One of the most important dimensions along which methods of setting objectives can differ is that of a technical vs. normative approach. A technical approach tries to make the setting of objectives "objective," and thus preferred. Supposedly values and norms are not part of such an approach. Of course, however, there are methodological decisions in any technical approach that must be made "non-technically."

The existing national averages approach for the current standards is a technical approach. Used prospectively, such a system uses the national average as the level of attainment. However, the choice of a measure of central tendency for the level in and of itself is a normative choice. Why not set the level at the highest agency's level of attainment? Moreover, there are myriad measures of central tendency to choose from. Why not use the median? These methodological choices will clearly change the levels of attainment set.

The previous BPA proposal for the revised standards is also a technical approach. A clear normative component of this approach, however, is asking agencies in the low category to improve 150%, in the medium category 125%, and in the high category 75%. Choosing to ask more of the less well performing agencies is clearly a normative choice.

One very technical method considered by BPA is a multivariate predictive method. Such a method would use a time series-cross section data base of attainment data and possible predictors to generate a statistical prediction of what the level of attainment for a particular agency will be in the next time period. The data base would include data for all VR agencies for several years. Possible predictors for a particular data element would include other data elements and their component parts, measures of the environment, budget figures, client characteristics, measure of staff inputs, measures of services, etc. Of course, as is true for all methods relying partially or wholly on past attainment, for this system what has been becomes what shall be.

Using the normative approach, the objectives would be set by RSA on the basis of where the state VR agency "should" go, without recourse to technical analysis. Such an approach seems to have been taken in setting objectives for the SSDI/SSI-VR Special Program.

It is clear that all methods for setting objectives will include some mix of the technical and the normative. It is also clear that technical solutions provide no panacea for the difficult problems in designing a method for setting objectives. No simply technical solution is possible.

## Minimum vs. Maximum

Another very important distinction is between minimum and maximum objectives. It is one thing to say that an agency should rehabilitate at least 80% of its clients at/or above minimum wage, and another that each agency should attain the ideal (e.g:, 100%). With minimums, many agencies are likely to achieve their objective; with maximums, agencies will likely always be striving toward the ideal goal.

Another way to see this distinction is to look at the differences between "reasonable" and "optimal" expectations. With minimum objectives, the emphasis is usually on what is reasonable and feasible for an agency -- although minimum expectations could be set "unreasonably" at 99%, for example. Optimal expectations imply that the agency operate at what the economists call the frontier of the production possibilities curve, squeezing the most out of the agency's resources.

The question throughout is which method will lead to better attainment. The trick would seem to be to set minimum or maximums just out of the agency's reach. The agency would not find such objectives unreasonable, but the agency would also not find the expectation too easy to meet. The point is to get as much movement out of the agency as possible.

The proper setting of this just-out-of-reach level is very difficult, however. An analysis of existing data tells how the agencies are currently operating. Whether they are operating efficiently cannot be determined from the analysis of aggregate data. Thus, only if one is willing to assume efficient operation can one use the empirical levels of attainment to generate optimal expectations. This suggests that the method for setting objectives will have to be a trial and error one, with flexibility built in, to allow for the "right" level to be obtained through adjustment.

## Logical vs. No Logical Basis

Some of the data elements have built into them a logical minimum or maximum. For example, the cost benefit ratio has a logical minimum of 1.0, under which costs are greater than benefits. For another example, the percentage with minimum wage has a logical maximum of 100% -- no agency can do better. However, in spite of what would seem a logical minimum or maximum, there are difficulties in using these as expected levels. For example, an agency will probably always serve some clients for whom employment is not a goal. It is 100% minus the percentage of such clients which is the logical maximum -- if the validity of serving such clients is allowed. Thus, logical minimums and maximums cannot be completely relied upon as a method for setting objectives.

## Historically vs. Ahistorically Derived

One way to set the objectives is to set them on the basis of the historical performance of the VR agency. One method which is historically based is described below.

A state is judged on the basis of the amount of improvement it is able to make from year to year toward achieving the goal. Thus, if a state had 80% achievement of a goal one year and 88% the next, then the attainment level would be concerned with the rate of the change (here 10%) or with the percent of the "gap" closed (here, 8/20 or 40%). The level for this type of progress could be specified a number of ways. For example, one way would be simply to establish a fixed minimum. All states shall make X% progress from year to year toward achieving the goal. Alternatively, statistical norms could be devised. For instance, "underachievers" might be those with the lowest rates of progress, or with the least progress in closing the gap. It seems clear that the historical pattern for a particular agency, or for agencies in general, should be included somehow in the setting of objectives.

## National vs. Sub-National Comparisons

Both the current method and the previous BPA proposal for the revised standards are based in large part on national comparisons. The first question, of course, is whether an agency should be compared to any other agencies in the process of setting objectives. Whether or not the answer to that question is yes, comparison is useful, even if just for background information.

The second question is whether the comparison should be to all other agencies, the national comparison, or to some subset of other agencies. The amount of diversity among the 80-odd agencies is staggering, so that some subset seems useful. Natural subsets are available, large vs. small agencies, general vs. blind vs. combined agencies, or the agencies in the various federal regions. But, there is diversity there also.

A couple of approaches are possible to identify comparable agencies. The first is to ask the VR agencies themselves, and to ask RSA personnel, what agencies they think are comparable. The questioning could focus on one "sister" agency or on a list of five or more comparable agencies. The second is to use existing data on the agencies to empirically define similar agencies, through the family of techniques known as numerical taxonomy.

Whatever method is used to define comparable agencies, having a subset of such agencies seems useful. However, the very real differences between agencies somewhat limit the role of comparable agencies' attainment in setting objectives for a particular agency.

## For Agency vs. For Sub-Agency

The standards are clearly targeted for the state VR agency. As such, the standards are not concerned per se with sub-agency units. Within a state, units such as regions, districts, offices, or even the individual counselors could be the target of Performance and Procedural Program Standards. However, in the federal/state VR system, these sub-agency units are not the focus. Thus, in this standards system, the method for setting objectives for the agency does not have to deal with the separate problem of specifying objectives for the sub-agency units. State VR agencies are free to set their own sub-objectives if desired, and free to choose a method for setting these objectives.

## Adjusted vs. Unadjusted Objectives

Another possibility is comparability adjustments to adjust state VR agency attainment. There would be adjustments to current attainment, adjusting, for example, a 70% competitive employment figure up to 80%, or down to 63%. However, this same level of reasoning could be used to adjust objectives, turning a cost-benefit ratio objective of 1.0 into 1.25.

Three needs for comparability adjustments are identified. First, VR agencies differ in factors partially beyond the control of the agency, such as unemployment rate, the disabled population, and agency funding. Second, the VR agencies differ in client selection, in the kinds and difficulty of clients that end up being served by the agency. Third, comparability adjustments are necessary to prevent the perverse behavior usually associated with standards systems as different incentives and disincentives are created.

In spite of the need for comparability adjustments, the data and methods for making these needed adjustments were found not to be available. There is no easily obtainable, agreed-on comparability adjustment. The closest candidate was a client difficulty index, similar to a weighted case closure. For that reason, BPA recommended the inclusion of such an index in the reporting system, and makes that same recommendation here.

## Single Objectives vs. Incorporating Relationships

In the Analytic Paradigm, the relationships among the standards were discussed. That discussion has implications for the setting of objectives. The levels of attainment could be set independently for each data element, without regard to the relationships among data elements. In that way, the trade-offs involved would not be directly faced. The problem, however, is not now easily resolvable. The best that can be said is that these trade-offs will have to be understood in the objective-setting process, though the objectives will be set data element by data element.

## Stipulated vs. Negotiated Objectives

A further dimensions of methods used to set objectives for state VR agency performance is whether RSA will take a top-down stance and once and for all set the objectives for the state VR agency, or whether the agency is to participate in the objective setting process. This is not to say that an agency would set its own objectives. The point is whether the agency will have the chance to respond to the expectations, presenting arguments and evidence of unusual situations or of unknown obstacles. In this negotiation process, the "unreasonableness" of objectives can be somewhat resolved.

## General vs. Standard Specific Methods

Implicit in the discussion of the other dimensions is that the method of setting objectives could be different for each standard, even for each data element. For example, if not enough is known about a particular data element to provide a clear picture of what good performance should look like, then no objective might be set for that data element. Or, for example, under the cost effectiveness standard, the benefit cost rates could have a general minimum objective set at 1.0, but the discounted net present value could be set by comparison with other agencies of the same size.